Food Packer

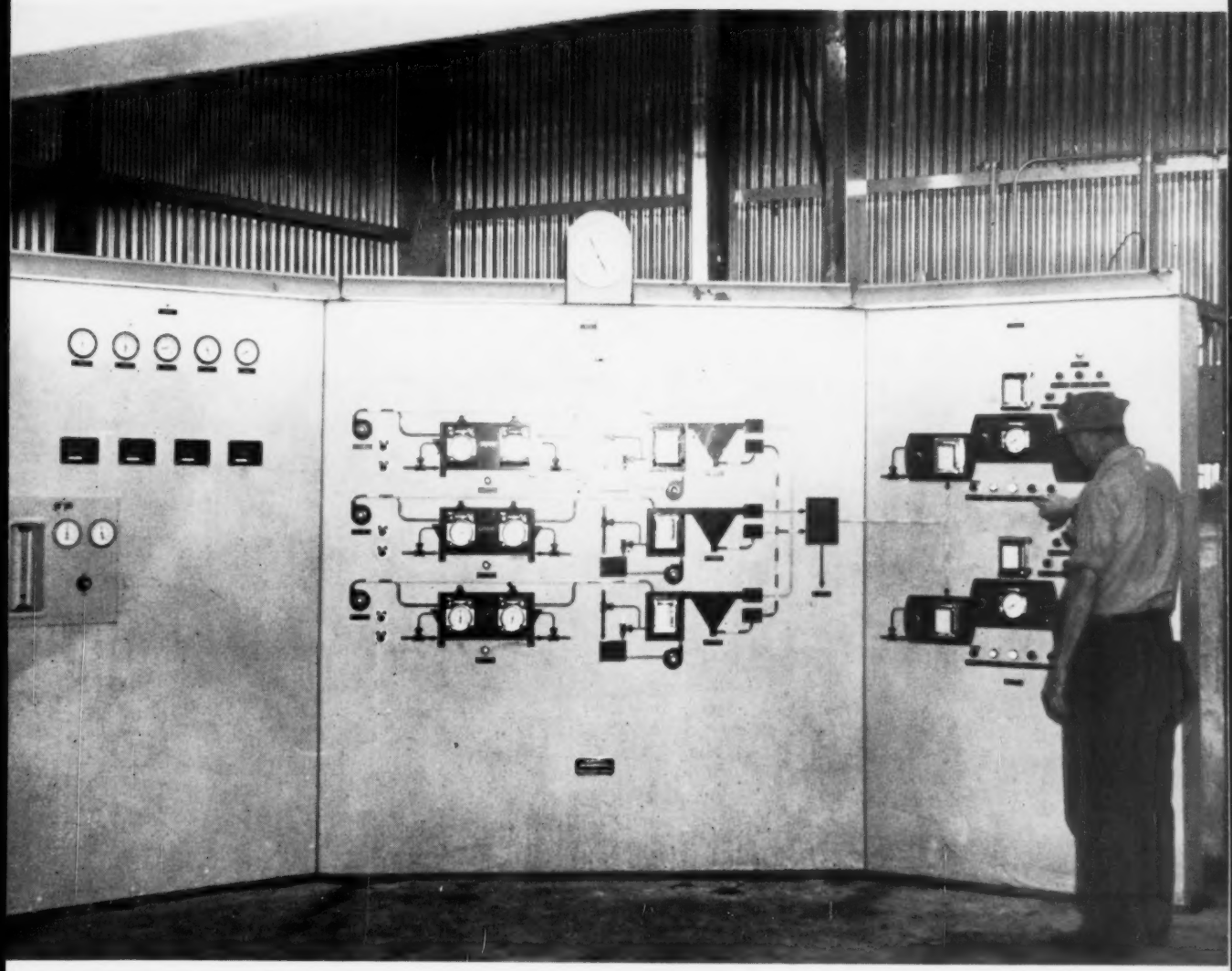
The National Magazine of Production and Management

CANNING GLASSPACKING FREEZING

A Vance Publication

August, 1956

Man-of-the-Month
Roger H. Lueck



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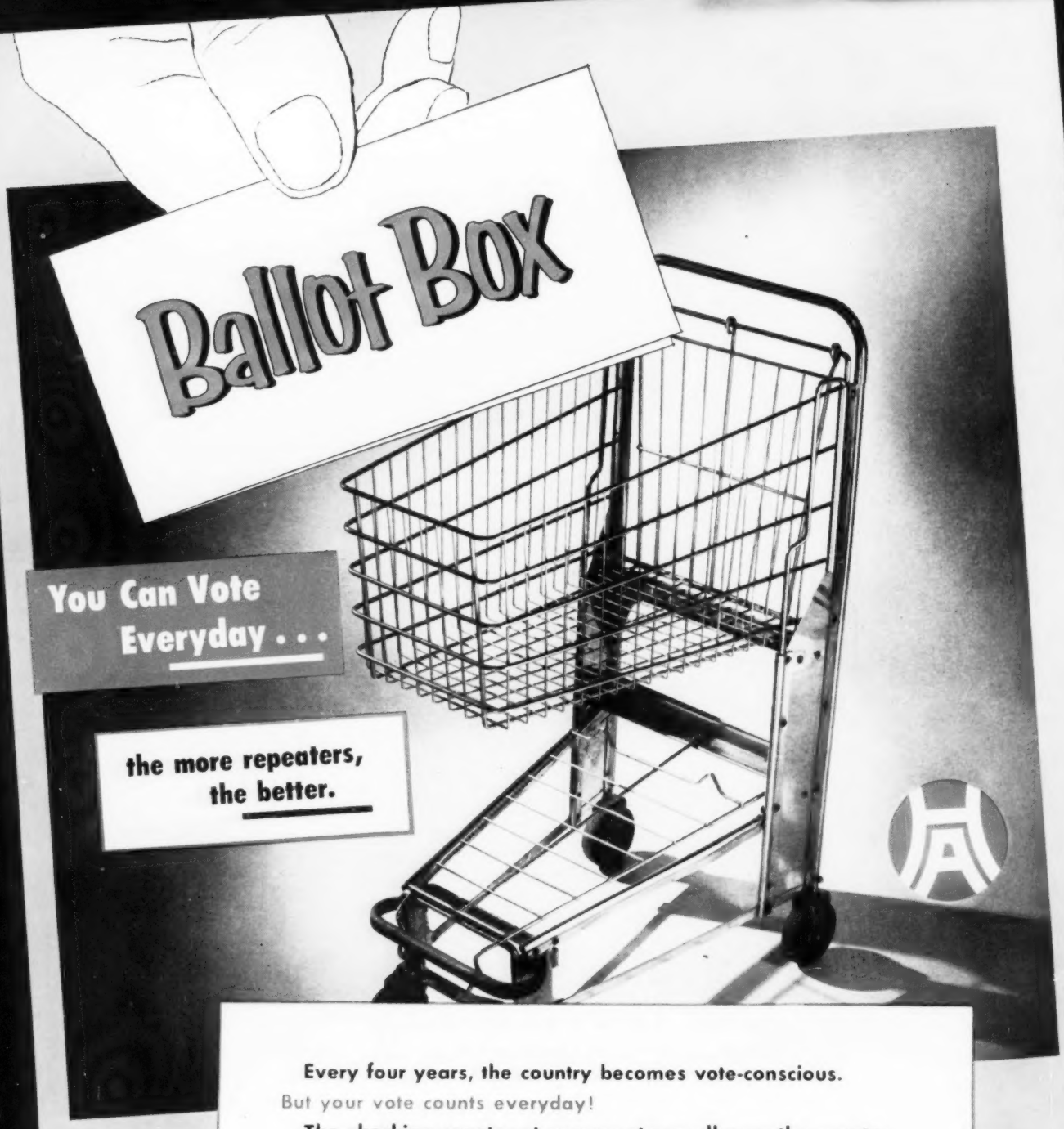

Every four years, the country becomes vote-conscious.

But your vote counts everyday!

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It is our job at HAZEL-ATLAS to sell your candidate day after day, for an H-A package is designed to do electioneering at the point of sale.

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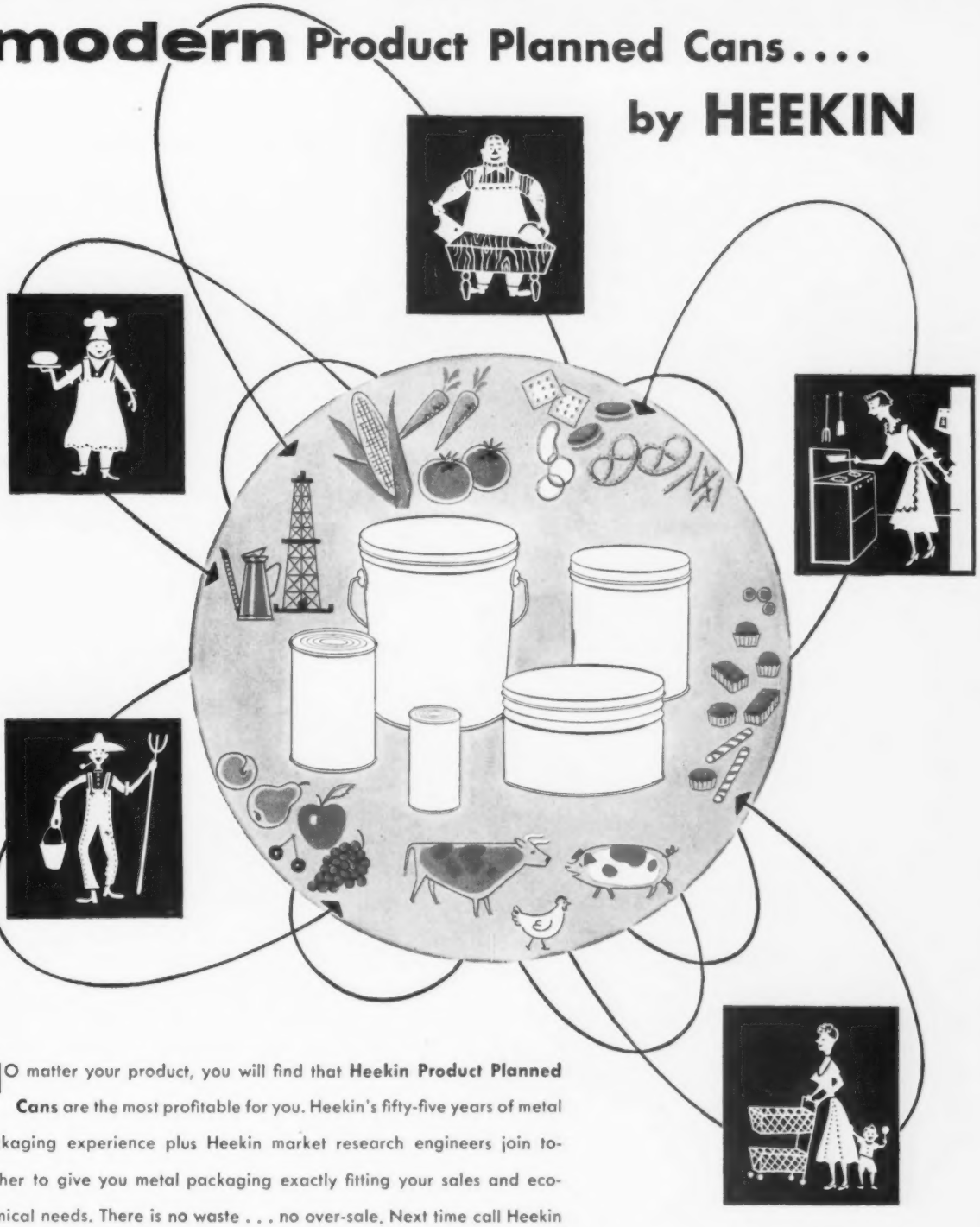
modern Product Planned Cans....
by HEEKIN



NO matter your product, you will find that **Heekin Product Planned Cans** are the most profitable for you. Heekin's fifty-five years of metal packaging experience plus Heekin market research engineers join together to give you metal packaging exactly fitting your sales and economical needs. There is no waste . . . no over-sale. Next time call Heekin and get the facts about Heekin's Product Planned Cans . . . **plain or lithographed** . . . planned for your product and planned for your profit.

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BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Food Packer

August 1956

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Events to Come

August 21-24. Western Electronic Show and Convention, Pan Pacific Auditorium, Los Angeles.

Sept. 6-15. National Green Olive Week.

Sept. 10-12. Packaging Institute, annual forum, Statler Hotel, Cleveland, Ohio.

Sept. 11-14. Packaging Machinery and Materials Exposition, Cleveland Public Auditorium, Cleveland, Ohio.

Sept. 13-22. National Tuna Week.

Sept. 24-25. Texas Canners Association, annual meeting, Hilton Hotel, San Antonio.

Sept. 28-Oct. 2. American Meat Institute, golden anniversary meeting, Palmer House, Chicago.

Oct. 7-10. National Association of Food Chains, annual convention, Chicago.

Oct. 17-19. National Pickle Packers Association, 63rd annual meeting, Edgewater Beach Hotel, Chicago.

Oct. 24-27. Florida Canners Association, 25th annual convention, Hollywood Beach Hotel, Hollywood, Fla.

Nov. 1. Illinois Canners Association, annual meeting, Bismarck Hotel, Chicago.

Nov. 7-8. Wisconsin Canners Association, annual convention, Schroeder Hotel, Milwaukee.

Nov. 8-9. Iowa-Nebraska Canners Association, annual meeting, Fort Des Moines Hotel, Des Moines, Iowa.

Nov. 14-16. Indiana Canners Association, fall convention, French Lick Sheraton Hotel, French Lick, Ind.

Nov. 18-19. Pennsylvania Canners Association, 42nd annual convention, Yorktowne Hotel, York, Pa.

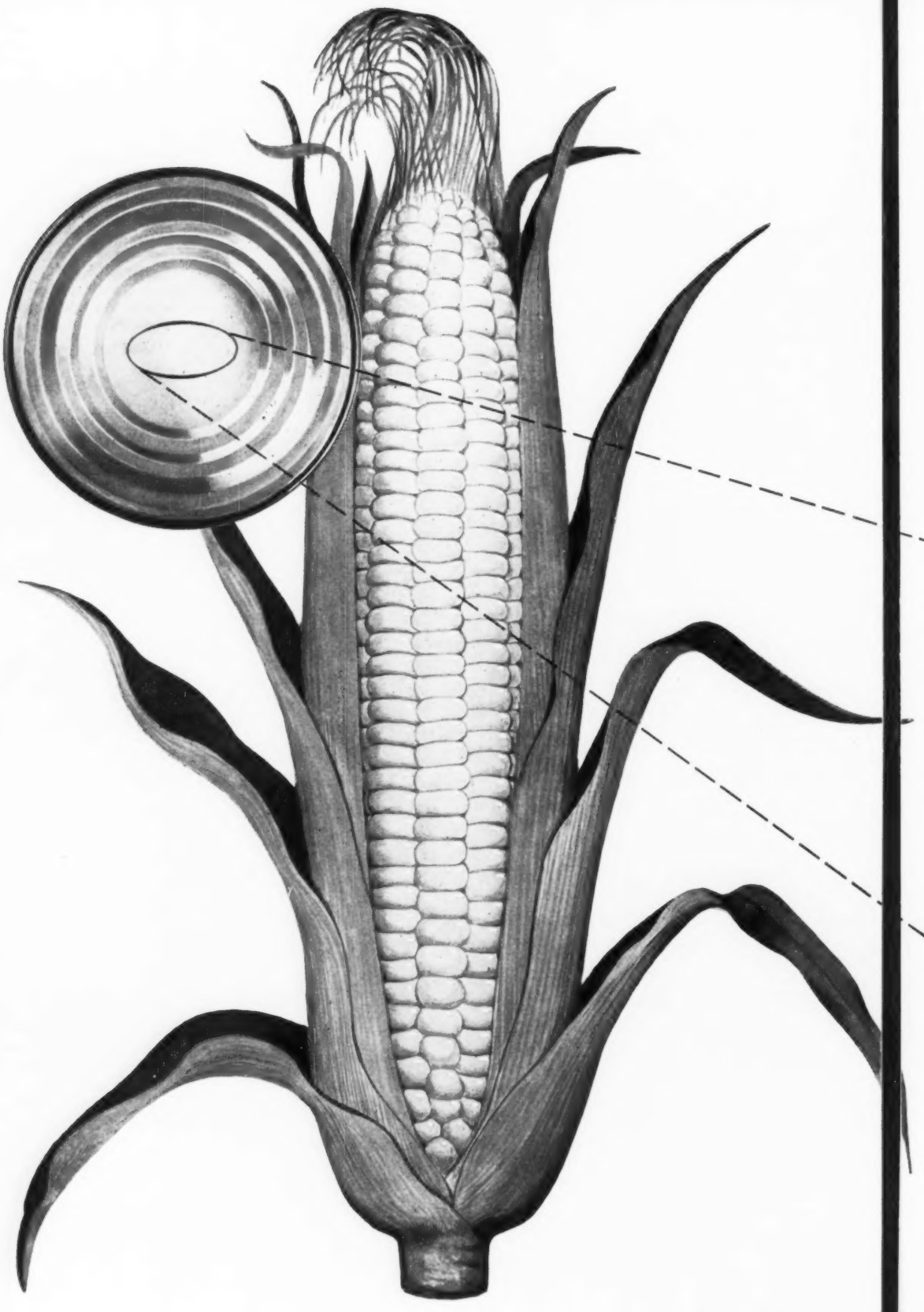
Nov. 26-27. Ohio Canners Association, annual convention, Hotel Carter, Cleveland, Ohio.

Nov. 27-30. Vegetable Growers Association of America, annual convention, Grand Rapids, Mich.

Nov. 29-30. Michigan Canners & Freezers Association, fall meeting, Pantlind Hotel, Grand Rapids, Mich.

Dec. 6-7. Tri-State Packers Association, annual convention, Haddon-Hall, Atlantic City, N. J.

Dec. 13-14. New York State Canners & Freezers Association, 71st annual meeting, Statler Hotel, Buffalo, N. Y.



This oval has real meaning!

Over the years quality canners have known this trade-mark stands for an extra assurance of quality . . . such achievements in research and development, for example, as the C-enamel that protects the natural color and flavor of golden corn.

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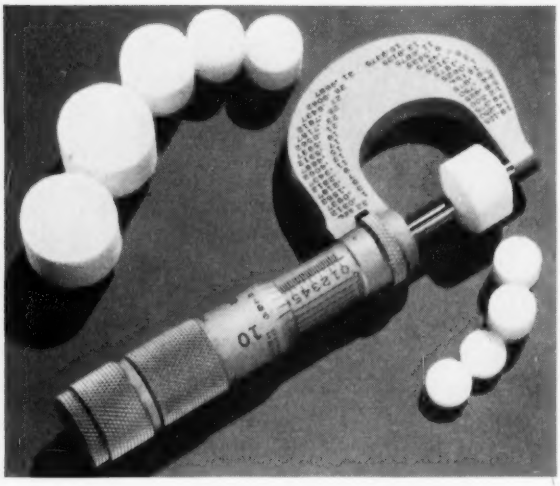
Protect product flavor with . . .

Scienco Salt Tablets



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Salt—the right kind and the right amount—is your best guarantee for flavor control. That's why top quality houses use Scienco Salt Tablets.

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Washington and You

Robert Y. Kerr, Washington Editor

1956 Soil Bank Rules May Be Discontinued

The Department of Agriculture states firmly that announced administrative regulations and rates of payment for the Soil Bank Acreage Reserve program apply only to the 1956 program.

It's clear that the USDA expects the Acreage Reserve plan to continue for a long time; and it is probable that this year's formula will serve as points of departure for any later modifications. So a statement about this year's process may have future usefulness.

Farmers with acreage allotments for field corn or other major crops were in line to transfer damaged vegetable fields to the acreage reserve; provided, first, they held below the acreage limits in planting the allotment crops, and second, made the shift to the soil bank before the cut-off date.

Canning Crops

The limitation dates for spring-planted crops will have been passed by the time these lines are in print; but fall-seeded crop lands can be brought under the plan. Some acreage of peas and sweet corn planting, abandoned because of weather damage or other natural disasters, has been qualified for soil bank payments.

Consider the field corn allotment: A special Soil Bank corn base is established by multiplying the farm's corn acreage allotment by 117.8. This is a formula figure, used in calculating the transfer of corn-allotment land to the Acreage Reserve. Suppose the farm has a corn allotment of 100 acres; then the Soil Bank corn base figure would be 117.8. If the farmer had planted his 100 acres of corn, he would be permitted to transfer 17.8 other acres to the Reserve as corn land.

This addition to the reserve must be at least 10% of his Soil Bank corn base formula figure and in any case not less than five acres. If the farmer had 15 acres of peas not worth harvesting, he could plow under the damaged crop and enter into agreement with the Agricultural Stabilization and Conservation County Committee to place the 15 acres in the reserve for 1956; provided he got this done before the cut-off date.

Estimated Yield

For this he would be paid an amount equal to the estimated bushel yield of corn for the field as determined by the county ASC committee. This estimated yield would be multiplied by the established county rate per bushel. Note that in this case the payment would be determined by the estimated corn yield; not the pea yield. The farmer would not be permitted to harvest any crop from his acreage reserve land in 1956; nor would he be permitted to graze stock on it in '56, after June 22. Other rules; but these are suggestive. This page is indebted to the Wisconsin Canners Association for the analysis of this hypothetical case.

The Senate has voted to raise to $14.5 billion, from $12 billion, the amount the Commodity Credit Corporation may borrow from the Treasury to finance price support operations.

3 Highly Versatile FMC Machines for Fast, Accurate Carton Filling

FMC Model 15 Filler shown at a plant of Stokely Van Camp, Frozen Food Division. Operation here is semi-automatic, filling chopped broccoli at a rate of 108 cartons per minute. Available with an extremely wide variety of attachments, this filler can be adapted to fill most any product.

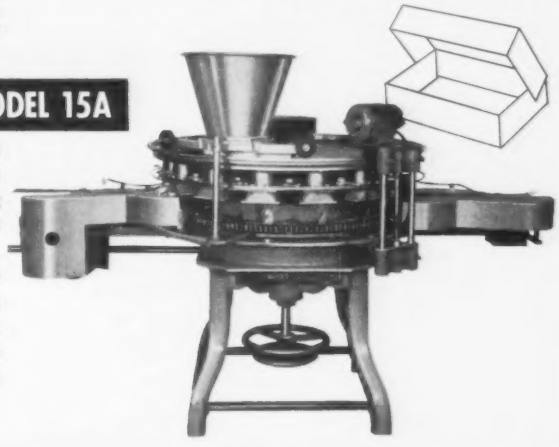
FMC Model 15 and 15A Carton Fillers —designed for economical, uniform filling of top-opening cartons

Precision-built for accurate, efficient operation, these fillers convert slow, manual packaging to single, high-speed operations—while maintaining an even, uniform pack.

MODEL 15

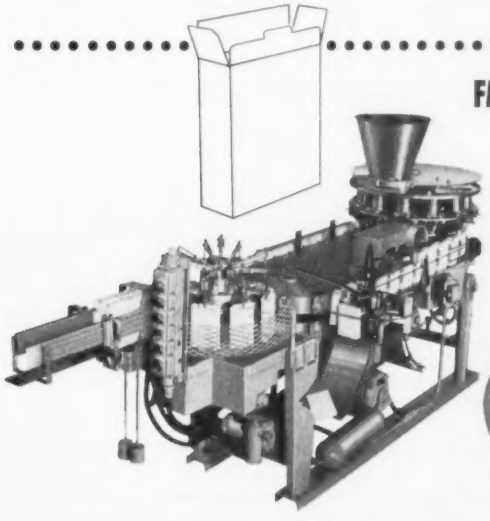
The variety of attachments available for the Model 15 make it the most versatile filler of its type. It can be adapted to a fully automatic operation for such free-flowing products as whole grain corn, peas, lima beans, cut string beans;—or to a semi-automatic operation on broccoli, cauliflower, Brussels sprouts and leafy-type products. It opens, fills and closes up to 150 consumer-size cartons per minute in fully automatic operation.

MODEL 15A



The Model 15A is designed for fully automatic, high-speed filling of free-flowing products. Employing such standard features as telescoping pockets, straight-in type feed, rotary hopper, vibrating carton track, and traveling only 180 degrees around the perimeter of the filler, the Model 15A fills up to 200 consumer-size cartons per minute. Furthermore, it can be used with opener and closer for Marathon, Klik-Lok, Waldorf and Fibreboard cartons. In addition, it employs an electronic "no carton-no fill" device.

Both models meet the highest standards of sanitary construction. Both employ motor drives, and rotary brushes or wipers to ensure uniform volumetric filling.



FMC MARA-PAK "V" FILLER is Highest Speed Machine of its Type

Designed for high-speed vertical filling of end-opening cartons, the Mara-Pak "V" accurately fills up to 250 cpm or more with an absolute minimum of operating supervision or maintenance. A completely automatic, continuous operation, handling either wet or pre-frozen granular products with equally high efficiency. Equipped with cam-operated hinged funnels, specially designed to prevent "bridging" of product. Now available with automatic short-fill detector and volume control.

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Canning Machinery Division

General Sales Offices: WESTERN: SAN JOSE, CALIF. • EASTERN: HOOPESTON, ILL.

Industry Names and News

S. Lasselle

J. R. Duggan

Associated Blue Lake Green Bean Canners have elected **S. E. Lasselle,** *Portland Canning Company,* Sherwood, Ore., president for the 1956-57 season.

J. Roy Duggan, vice president of the *SeaPak Corporation,* St. Simons Island Ga., has been elected president of the *Southeastern Fisheries Association* and vice president of Region III (the shrimp producing states) of the *National Fisheries Institute.*

New officers of the *Purple Plum Association* which met recently in Portland, Ore., are: president, **Henry Hohwiesner,** *Starr Foods, Inc.,* Salem, Ore.; first vice president, **Larry D. Jones,** *Washington Canners,* Vancouver, Wash.; and secretary-treasurer, **Art Hobart,** also of *Washington Canners.*

Phi Tau Sigma, honor society for food science, held its second annual meeting on June 12 in the Sheraton-Jefferson hotel in St. Louis. Installation of national officers for the coming year highlighted the meeting. **Dr. Carl S. Pederson,** Cornell University, will serve as president; **Dr. Emil N. Mrak,** University of California, vice president; **Dr. Edward E. Anderson,** University of Massachusetts, secretary-treasurer. **Dr. F. J. Francis,** University of Massachusetts, is serving as executive-secretary for the second year of a three year appointment.

C. Richard Drescher, vice president in charge of the frozen foods division, *Phillips Packing Company,* has been assigned additional duties as director of quality control for all company production, canned, frozen, dried or brine. He will be assisted by **Walter H. Lappen,** manager of quality control, and an expanded staff of laboratory technicians.

Formation of a new corporation to be known as *St. Marys Foods, Inc.,* and reorganization of *St. Marys Packing Co.* has been announced. **Joseph L. Williams** is president and general manager of the new corporation. Under the change, three units of the old corporation will be combined to form the new company. Plants involved in the change are located in Delphos, Van Wert and St. Marys, Ohio. *St. Marys Packing Co.* will continue to operate as a separate corporation.

The new *Northwest Packing Company* Plant No. 1 will involve an expenditure of over one million dollars when completed. The Portland food processing plant was ruined by a fire last April.

T. M. Ryan

M. E. Knouse

Thomas M. Ryan has been elected president of *Waples-Platter Company,* wholesale grocery distribution system.

M. E. Knouse, president, *Knouse Foods Cooperative, Inc.,* was elected president of *Processed Apples Institute, Inc.,* at the Institute's fifth annual meeting held at White Sulphur Springs, W. Va. **Elmer J. Yoder,** *C. H. Musselman Company,* was elected a vice president, along with **L. W. Brown,** *National Fruit Product Co., Inc.,* and **H. E. Meinhold,** *Duffy-Mott Co., Inc.,* re-elected. **J. Pinckney Arthur,** *Shenandoah Valley Apple Cider & Vinegar Corporation,* will serve as secretary, and **Gordon I. Van Eenwyk,** *Fruit Belt Preserving Company,* treasurer.

Harry Kaplan has been named sales manager in charge of frozen foods and dairy products for *Henry M. Samplin Associates, Inc.*

James D. Wells has been appointed general sales manager of the *William Underwood Company.*

Keith O. Burr has resigned as assistant secretary of the *National Association of Frozen Food Packers* to join the *Minute Maid Corporation* as distribution manager, with headquarters in Orlando, Fla. He has been with NAFFP since 1944. **E. Jerome Webster, Jr.** of Arlington, Va., will assume Mr. Burr's former duties.

Continental Can Company and *Cochran Foil Company* have announced the formation of a new company—*Cochran Continental Container Corporation.* It is owned equally by Cochran and Continental.

Continental and *Robert Gair Company, Inc.* have agreed on a merger of the two enterprises.

Paul L. Davies, formerly president of *Food Machinery & Chemical Corporation,* has been elected chairman and chief executive officer of the corporation. **Ernest Hart,** formerly executive vice president in charge of chemical divisions, has been elected president.

Glen A. Boger, president and general manager of the *Lehigh Valley Cooperative Farmers,* Allentown, Pa., has been appointed a member of the *Federal Farm Credit Board* by **President Eisenhower.**

The *Aron Canning Company,* Stockton, Calif., was recently purchased by *Tri-Valley Packing Association.*

Jean D. Patton, 58, vice president of *Morton Frozen Foods,* died June 19 in Louisville, Ky.

F. Leonhardt

J. Hollabaugh

Dodge & Olcott, Inc., announces a new slate of officers: **Frederick H. Leonhardt, Jr.,** president; **R. V. Behrens,** vice president and treasurer; **V. H. Fischer** and **J. P. Bauer,** vice presidents; **E. M. Behme,** secretary; and **Louis Young,** assistant treasurer.

J. P. Hollabaugh, treasurer of *The C. H. Musselman Company* for the past 33 years, has resigned. Mr. Hollabaugh is a "ruby pin" member of the *Old Guard Society* of the *National Canners Association,* indicating connection of 40 years or more with the canning industry.

1776

In those early days before the corner grocery and the supermarket, the average housewife "put up" preserves as one of her regular chores. Because glass jars were then a scarce and expensive item, she was confined for the most part to absolutely essential foods. Favorite family recipes and such delicacies as mayonnaise or other salad dressings were prepared only for special occasions.

Today's housewife can make every meal a "special occasion," choosing from a vast array of economical, glass-packaged products—the result of scientific research in food technology and in glass manufacture. Metro continues to play an important role in the development of better glass containers for a growing variety of products . . . with METROmatic service offering the food packer assurance of a quality product, delivered on an unfailing schedule, geared to his production requirements.

METRO GLASS COMPANY, INC.

MANUFACTURERS OF QUALITY GLASS CONTAINERS

JERSEY CITY, NEW JERSEY

WASHINGTON, PA. CHICAGO, ILL.

Spotlighting the NEWS

Residue Tolerances on Raw Products Are Not Applicable to Processed Foods

Tolerances for pesticides that apply specifically to fresh fruits and vegetables do not automatically become tolerances for canned fruits and vegetables.

In a reply to a Food Packer inquiry, Wallace F. Janssen, assistant to the commissioner of Food and Drug Administration, indicated that the tolerances established for pesticide chemicals apply directly only to fresh fruits and vegetables. However, procedural regulations have been established which provide that processed foods will not be illegal if:

1. The residues on the raw material are within the applicable tolerance (or have been exempted from the requirement of a tolerance).
2. The pesticide residues have been removed to the extent possible in good manufacturing practice; and
3. The amount of residue in the processed food when ready to eat is not greater than the tolerance permitted on the fresh fruit or vegetable.

Mr. Janssen said, "Fresh fruits and vegetables are generally washed or peeled or otherwise treated before they are eaten, cooked or processed so that the residues originally present are reduced. Ordinarily processed fruits and vegetables are not subjected to additional treatment before eating which would cut down on the amount of pesticide present."

Two New Food Standards

Two proposed standards for processed foods were published in the Federal Register in June. They are for canned sweet cherries and frozen sweet peppers.

Publication in the Register is one of the last steps in fixing new regulations.

Exceptions, comments, or criticisms must be filed before August 19, 1956 in the case of the sweet peppers and before December 31, 1956 in the case of sweet cherries.

In the usual course of U. S. Department of Agriculture action the proposed standards will be reviewed and perhaps revised after the deadlines for criticism and then published. They usually become effective 30 days after final publication.

Libby May Make Cans

Charles S. Bridges, president of Libby, McNeill & Libby, indicated that his company is studying the possibilities of manufacturing cans. In a press conference in Chicago in July Mr. Bridges said that the company so far has not adopted definite plans. At present Libby purchases all cans used in domestic production. However in Germany the company's operation manufactures all the cans it uses.

Early Prices Strong

With the beginning of the major fruit and vegetable pack came indications of strong prices.

George B. Morrill, Jr. (right), past president of the National Canners Association, demonstrates on television the safety of canned foods that had been exposed to the nuclear explosion of May 5, 1955. He and Professor Jonathan Karas, of Station WCSH-TV, Portland, Me., are drinking from a can of citrus juice blend, just checked by Geiger counter.

The carryover on corn was lighter than last year. The summary of the department of commerce on both canners and distributors' stocks on June 1 showed corn supplies down by more than a third from last year. Peas and corn supplies were about the same as last year on June 1.

Larger crops of beans, peas and spinach could be expected this year, according to the production indications published by the U. S. Department of Agriculture. Larger acreages were reported for green lima beans, beets, cabbage for kraut, sweet corn and tomatoes. Only the acreage for cucumbers for pickles showed a decline.

Insect Battle

Squadrons of planes, hundreds of men, roadblocks, and lots of federal money are tools that can be used in controlling a dangerous insect pest. In Florida a desperate effort began in April with the discovery of the tiny Mediterranean Fruit Fly in Dade County.

A report of the battle with the fly by the U. S. Department of Agriculture and the Florida State Plant Board has been made by the federal agency.

The infested area now includes 19 counties in Southern Florida – almost the entire southern half of the peninsula. Roadblocks are being placed above the infested area to keep the fly from moving northward. Also, roadblocks guard the entrance to the Florida Keys. The roadblocks halt the movement of products likely to harbor the pest. The main effort to destroy the pest is by aerial spraying. Three big planes cover the main infestation area of 200,000 acres. They are able to do this in 10 days. Local contractors using smaller planes – about 25 of them – hit infestations spotted outside the main area.

There are over 300 persons employed in control work. In addition to the aerial spray and the roadblocks, control means also used are fly traps and a granulated insecti-

MAY WE HELP YOU IN SOME OTHER WAY?

Feel free to call on us anytime for any of the tailor-made services available to Continental customers

You'd expect Continental to lean over backwards to help a new customer, and we do. But the fact is, the better we get to know you, the better we can serve you.

Important as cans are—to our business and to yours—they are only part of our mutual interest. To keep your operations running smoothly, we make available many technical services. If you need help with *any* packaging problem, never hesitate to call on Continental.

PLANNING CHANGES TO YOUR PLANT?

When it comes to designing a new canning line, revising or improving existing lines, or recommending changes in equipment, Continental's Cannery Equipment Service Department can often be of big help.

Our people will work right along with you in fitting lines to available space, and in devising a more efficient streamlined operation. Ask about this and other services which are always on call.

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Insure Uniform Quality Cooking

DOUBLE-CHECK with COOK-CHEX

The Easy-To-Use Cooking Indicator Tag

When a Cook-Chex is attached to a retort basket . . . *Anyone* in your plant can double check, at a glance, *two important* facts!

1. **The basket has, or has not, been through the cooking process.**
2. **It has, or has not, been subjected to proper cooking conditions.**

These two facts are important to you because they eliminate the usual problems of: a wrong cook schedule, keeping baskets in sequence, and the possibility of "losing" uncooked baskets!

Easy-to-use Cook-Chex signal these essential facts automatically! Cook-Chex, produced with a *purple* chemical ink, turn color to *green* only after your proper cooking conditions have been achieved. Cook-Chex react to precise conditions of temperature, steam and time; and, may be ordered to meet your specific cooking requirements.

Cook-Chex are also excellent as a low cost, permanent record for your cooking-room operations.

Double-check with Cook-Chex to insure uniform quality in your food products. Send for supply of Cook-Chex samples.

ATI COOK-CHEX

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Aseptic-Thermo Indicator Company
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Please send a FREE supply of Cook-Chex for use with a cooking process of _____ degrees F., for _____ minutes.
FP-8
Name_____
Position_____
Company_____
Address_____
City_____ Zone____ State_____

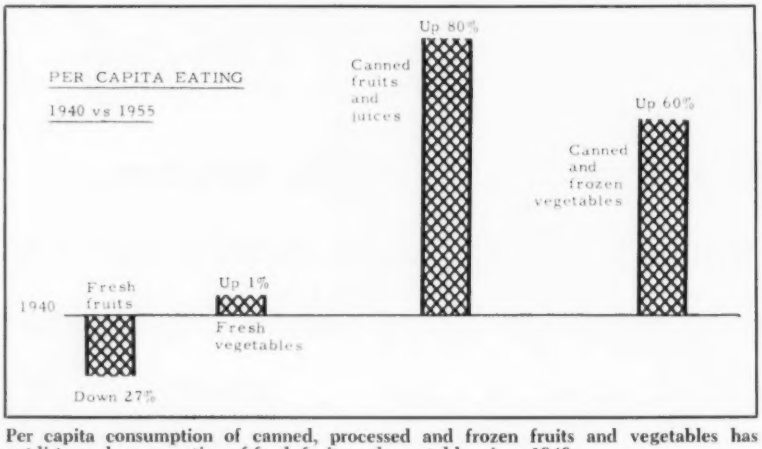
cide to catch larvae going into the group.

The USDA first allotted $100,000 to the eradication campaign. But in the 1957 appropriation bill for the Department $2,175,000 is marked for Mediterranean Fruit Fly work.

For Grocery Manufacturers More Products, More Business

Canners and other food manufacturers can expect increases in consumer expenditures of boom proportions during the next five years.

This was the estimate of Curtis C. Rogers, executive vice president of the Market Research Corporation of America. He spoke at the mid-year meeting of the Grocery Manufacturers of America at White Sulphur Springs, W. Va., on June 21.



Per capita consumption of canned, processed and frozen fruits and vegetables has outdistanced consumption of fresh fruits and vegetables since 1940.

Food expenditures in stores amounted to almost $45 billion in the past year.

Mr. Rogers predicted an increase of consumer expenditures of 25% within five years. His forecast was based largely on the rate of development of new and better products.

Today new products are accounting for 25 to 40% of the sales of leading grocery manufacturers. These products are the result of research over the past 5 to 15 years, he said.

Research now is going at an even faster rate. Mr. Rogers estimated that over $500 would be spent this year by manufacturers and others in the development and test marketing of new grocery products.

Earlier in the meeting Frank Armour, Jr., vice president of H. J. Heinz Company, noted the effect of brand names on sales. In reciped food products 84% of the trade goes to manufacturers' advertised brands. "It is the constant repetition of national advertising, selling a worthwhile product, that builds strong product franchises," he said.

In a report for the half-year Paul S. Willis, president of Grocery Manufacturers of America, said the most rapid sales growth has been in the "convenience" products. A study of representative groups of convenience items showed an increase of 20% between 1954 and the year ended March 31, 1956. Comparable "regular" items gained 5% during the same period.

Research From NCA

A quick test of liquid wastes from canning has been devised by the Western Research Laboratory of the National Canners Association.

The new test to find the pollution strength replaces the Biochemical Oxygen Demand test. The new test called the Chemical Oxygen Demand method is less complicated. It can be done in an hour by non-technical persons. The details are contained in a Research Report No. 816-56 "Chemical Oxygen Demand as a Test of Strength of Cannery Waste Water."

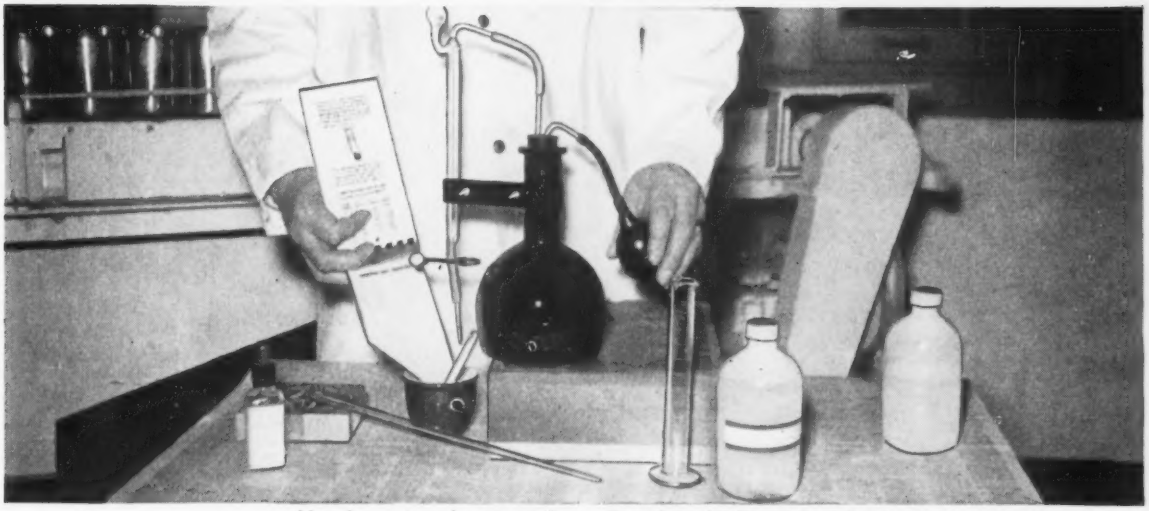
'Jungle Warfare'

Grocers were warned that a return to the "jungle warfare type of competition" would seriously weaken management operations in food distribution.

Watson Rogers, president of the National Food Brokers Association, speaking to the annual convention of the National Association of Retail Grocers in Los Angeles on June 12 told the dangers of hidden discounts.

Morton Salt Company's new million dollar laboratory at Woodstock, Illinois, is at the service of the food industry to help you solve any problem relating to salt. For example, here's...

How Morton helped kraut packers make a better product



Here's a sauerkraut packer using the plastic enclosed end point testing colors in Morton's waterproof booklet to determine the percent of salt in a kraut sample.

Salting sauerkraut correctly—to produce uniform high quality—presents two important problems to kraut packers.

1 Kraut packers (like other canners and food packers) have the problem of using the right amount of salt. The Morton Salt Company helped solve this problem with an easy-to-use booklet that shows you how to test kraut for salt content.

Morton's waterproof booklet, "Better Sauerkraut through effective use of salt," comes with plastic enclosed end point testing colors, and contains complete data on when and how to test salt content.

2 Kraut packers also face the problem of using the right type of salt for better flavor control. Morton helped solve this problem with Morton '999' Salt.

'999' is a high purity, low cost salt which contains 99.9% clean, pure sodium chloride; exceptionally low in the objectionable trace metals, copper and iron. '999' is an evaporated granulated salt that won't break up in shipment and will dissolve uniformly in an average time of about six minutes (not too fast or too slow). Morton '999' Salt has a practically constant weight per volume and is easily and efficiently dispensed by hand or machine.

How Morton can help you make a better product

Chances are Morton can help you turn out a better product for less money if you use salt for canning, packing or processing any food product. For Morton makes many grades of salt for the food industry, and only Morton has 9 strategically located plants to serve you. We offer fast delivery from a bag to a trainload at favorable prices and freight, *anywhere* in the country.

What's more, one of Morton's Food Technologists can assist you with on-the-spot help with any problem you have pertaining to salt. And he's backed by the services of chemists and salt scientists at Morton's ultra-modern research laboratory.

☐ Please send me your free booklet:* "Better Sauerkraut through effective use of salt."

☐ I am not a kraut packer but would like more information on how Morton can help me:

Name_____

Title_____

Company_____

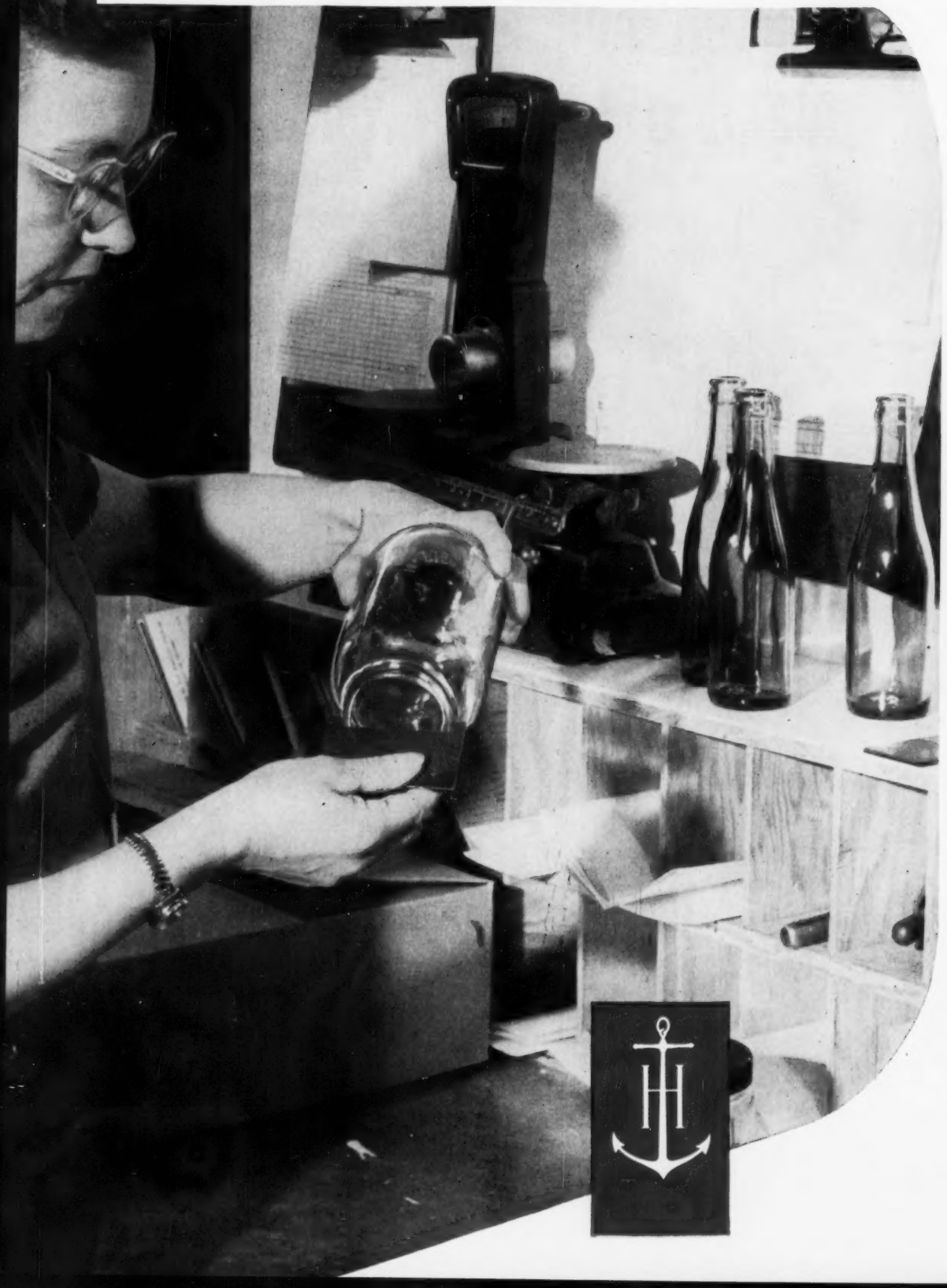
Street_____

City_____ Zone_____ State_____

*Glassware and chemicals necessary for testing sauerkraut salt content may be obtained at a nominal fee from the Natl. Kraut Packers Assn.

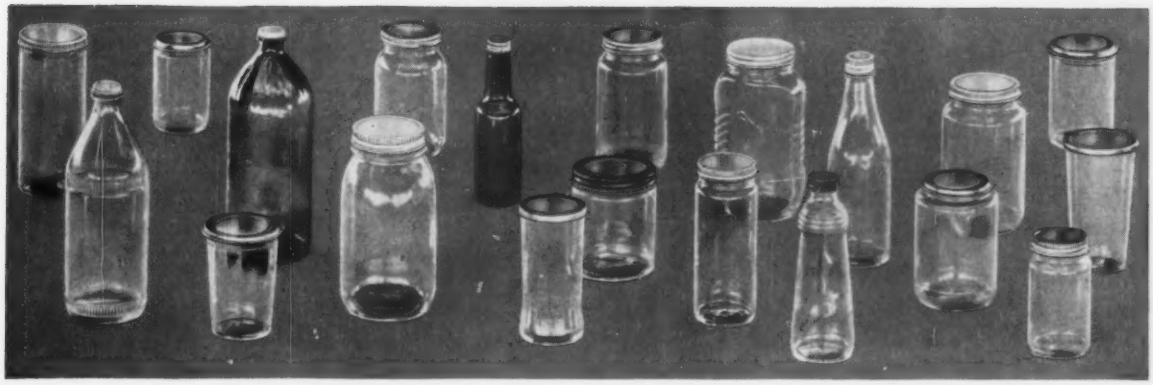
MORTON SALT COMPANY
INDUSTRIAL DIVISION
Dept. FPa-8, 120 So. La Salle Street, Chicago 3, Illinois

CONTROL IS

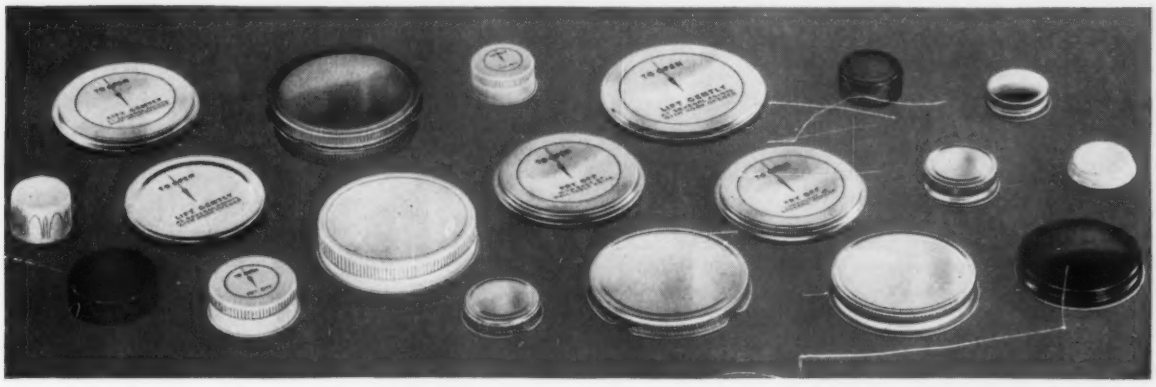


ALL-IMPORTANT

with Anchor Hocking!



Regardless of what you pack Anchor Hocking makes an Anchorglass container in a style, size and color to most attractively, efficiently and economically package it. And regardless of how you pack it—hot or cold—with or without vacuum, sterilized or processed, there's an Anchor cap and Anchor sealing machine to completely satisfy your diverse and specialized requirements.



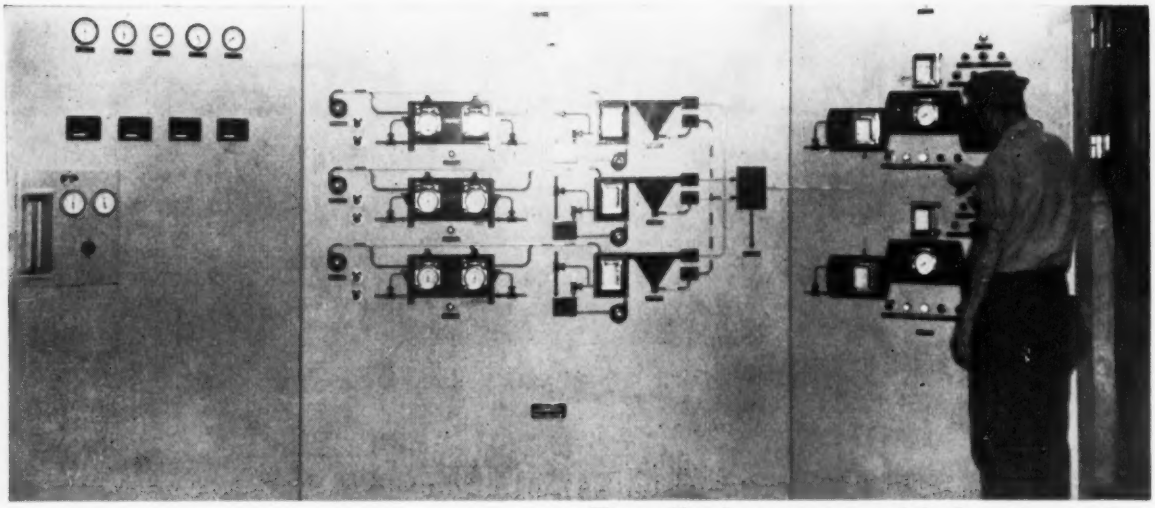
THE controls applied throughout your production and packaging operations are all-important to you. By the same token, the manufacturing controls employed by Anchor Hocking are very important to you, also.

Anchor Hocking exercises literally hundreds of exacting controls, tests and checks daily in the manufacture of its glass containers and closures. From the selection of all raw materials used to the final inspection, every operation is under meticulous control.

And all of this control, involving highly trained chemists, bacteriologists, engineers, other technicians and personnel, is done but for one reason. And that is, to provide you with uniform, high quality, dependable Anchorglass® containers and Anchor® screw, lug, vacuum, metal and molded closures that will give you high-speed, dependable production and protection.

ANCHOR HOCKING

GLASS CORPORATION *Lancaster, Ohio*



The panel board operator sets controls for the continuous cookers.

Controls on Panel Board Run Five Canning Operations

The panel board in the Green Giant plant, Ripon, Wis., which allows one man to run five operations and monitor several more, is another step in automation.

A panel board in the Green Giant plant at Ripon, Wis., has remote controls which now operate five units of a pea canning operation. One man operates the panel, replacing five men in the conventional setup.

The panel board is one feature of a completely new pea operation in the Green Giant plant. Most of the plant itself is only two years old. Last year, after new construction and remodeling, the installation of a corn operation was completed just before the pack. This year construction for the pea side was completed in May and the equipment was installed in time for the start of the pea pack.

Much of the machinery is functional for both peas and corn. The corn, after cutting and washing, is flumed to inspection tables. At this point – which is just beyond the gravity separator for peas – the flow of both products is the same.

The control panel is located on the ground floor of the building within sight of the four fillers and within a hundred feet of the two continuous cookers.

The panel board controls the five operations:

1. The chlorine in the water, fed in from tanks, is regulated by means of a gauge and controls.

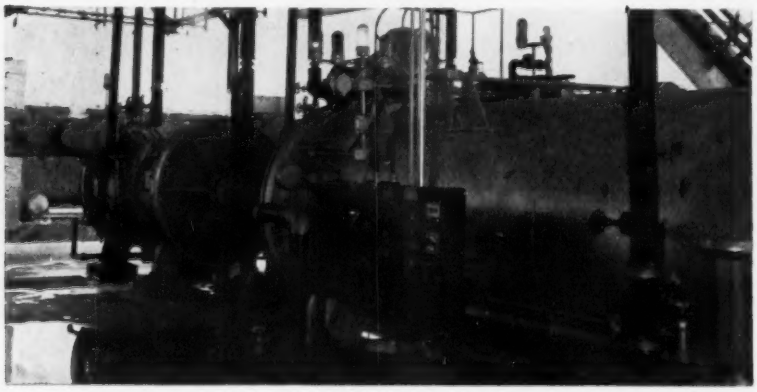
2. The blanchers can be started and stopped by controls. The temperature of the blanch is regulated by temperature gauges and controls on the panel.

3. The density of the brine solution in the gravity separators is recorded automatically by an instrument on the panel. The operator is able to start and stop the machines.

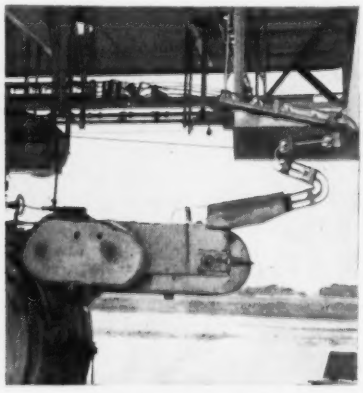
4. The two preheaters for the continuous cookers are regulated by temperature recording instruments and controls.

5. The two cookers have controls and temperature recording instruments on the panel board. A set of direct controls for each cooker may be used instead of the panel board.

Colored lights show the machinery in operation. Green and yellow lines diagram the flow of peas. The preheaters and cookers can be inspected readily by the panel operator since they are only a few steps away. But



This auxiliary set of controls can be used instead of the panel controls to operate the cooker directly.



The 303 cans from two lines pour into the cooker at controlled rate.

the blancher and the graders are not even on the same floor.

The panel board with controls for five operations also has automatic counters for each canning line – but no controls for them.

The panel board monitors many additional operations such as pumping, vacuum in the plant, air pressures in the plant, steam pressures, water pressures, and pea grade changes.

As the Ripon plant works toward automation many more operations may be controlled or monitored from the panel board.

In the pea operation three lines are used. One line of 8 oz. cans comes out of the closing machine at the capacity rate of one cooker. The 303 cans are fed from two closing machines to the second cooker-cooler.

The cooker-coolers actually set the pace for the entire operation. One of the four lines is not used in the pea operation.

For corn, all four lines come into use. The 7 oz. cans of corn, which are the same tin size as the 8 oz. pea cans, again come out of the closing machine at the capacity rate of one cooker. The other three lines feeding out 12 oz. squat cans are processed by the second cooker.

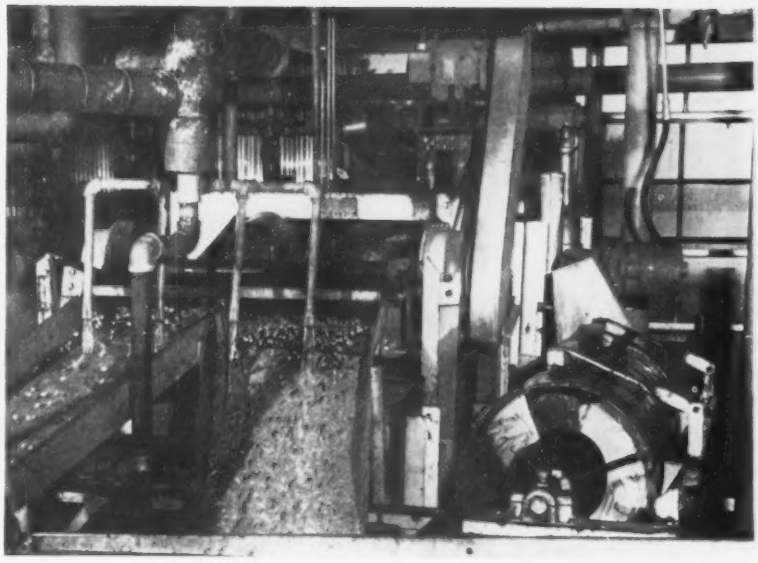
The board has been in operation since the beginning of the pea pack. During the first few days there were necessary adjustments. The operator who previously had run only the continuous cookers learned how to handle the controls for the other operations. During this period the panel controls were temperamental. But once into the season, Frank Stapel, manager of both the Ripon plant and the Rosendale plant, said that the panel has worked very well

He feels that the entire operation is efficient. A total of 85 persons are employed in both the plant and the warehouse–which is also new this year.

The plant and warehouse are connected. The main part of the plant is four stories high. Peas are brought in from the viners in hopper trucks and discharged into a bucket elevator.

The peas are air-cleaned on the second floor, flumed to the washer on the ground floor and then pumped up to the top floor for blanching. The gravity separators are on the third floor and the inspection tables on the second floor.

Cans are unloaded from a siding behind the plant and conveyed directly to the filling line. Conveyorization is complete from the time the cans leave the box car through the labeler and the caser. Cases are transferred to the gluer and sealer and then are palletized and taken by lift truck to the warehouse.



Controls from the panel fix the density of the brine in this gravity separator.

Water is handled in a rather unusual manner. Soft water is used for the blanchers and the brine. Cold, hard water cools the peas and flumes them to the shaker-washer in front of the gravity separators. The soft water from the blanchers is wasted immediately after use.

The wash water from peas coming out of the blanchers is wasted immediately after use. Water used for fluming the peas from the washer to the drain reel in front of the blancher, and from the gravity separators to the inspection tables, is reclaimed and used many times in preliminary washing operations in the interest of water conservation.

The waste water from the sewer is pumped some distance to an overhead irrigation system on farm land.

Some of the equipment used in the operations described in the foregoing article:

Panel instruments	Taylor Instrument Co.
Continuous cooker	Food Machinery Corp.
Gravity Separators	Geo. J. Olney
Shaker washer	Scott Viner Corp.
Viners	Hamachek Machine Co. Scott Viner Corp.
Drain reel	Scott Viner Corp.
Closing machine	Continental Can Co.
Labeler	Standard-Knapp

Peas from the gravity separators are directed to three inspection tables.

The first batch of preserves coming off the filling line is carefully re-checked for conformity with Kroger's color, taste and consistency standards.

Kroger's Pilot Samples, Test Batches Keep Select Quality in Preserves

By Arthur J. Glazier
Processed Foods Division
The Kroger Co.

Factory production of preserves certainly must meet a standard of customed desirability. But before working toward a standard of this sort, it is prudent to pinpoint customer preference.

At the Kroger plant in Cincinnati, customers fix the goals for quality. The Kroger Food Foundation, through home reference tests, actually submits preserve samples of varying consistency and taste to a jury of 750 homemakers. These homemakers indicate their preference, and their answers are scrupulously compiled and cross-checked.

The customers' standards are a guidepost. Also, as a fixed standard there is the accepted ratio of 55% sugar and 45% fruit. Left to the judgement of Kroger technicians is the amount of pectin which will be added for jell strength, the edible acid which will place the preserves in the pleasant taste range and also aid jelling conditions, and a buffer such as sodium citrate, added to time control the jelling.

This leaves only the considerations of color and consistency. Generally speaking, color should be characteristic of the fruit itself. Consistency is a matter of opinion, of course, but the degree is charted by the notes of the home reference jury. The goals are set, but factory procedures must still meet them. These procedures are described for production of strawberry preserves.

Strawberry preserves, which enjoy the largest volume sale, are followed by the laboratory from the field to the retail store shelf. After the strawberries have been selected and packed with four parts fruit and one part sugar, they are placed in storage and fast frozen. Lot number and selection data are forwarded to the factory control laboratory. In the laboratory, samples of the fruit are investigated for determining soluble solids of the fruit and PH readings. Then the laboratory is ready to duplicate in miniature the processing which is to come later.

Before full scale production gets under way a pilot sample is mixed in the laboratory.

Small or pilot samples of preserves are made to determine the desired quantities of acid, pectin and buffer, if any. The cooking time is estimated and consistency readings are made on the finished product. From these data a preliminary production formula is determined. With this necessary backlog of data, production can proceed on a full scale basis.

The first step in setting up full production is running a test batch of 1125 lbs. of fruit. The fruit is brought into the plant in 30 lb. cans. The cans are placed on the floor adjacent to the cooking equipment for thawing, accomplished by 100° F. water sprays overhead, a step which requires six to eight hours. Next the berries and juice, now at approximately 30° F., are separated by pouring through a screen.

Berries and juice are now ready to go into separate preheat kettles, to be brought to 160° and 130°, respectively. Prior to this a solution of 500 lbs. of sugar and 60 lbs. of water has been introduced in the fruit preheat kettle and brought to a temperature of 225° F.

Under the 160° temperature, osmotic pressure begins to extract the moisture from the fruit and raises the sugar solids within the fruit. Into the second preheat kettle holding the juice goes the balance of the sugar required for the batch. The contents

(Continued on Page 31)

New Diamond Crystal Salt Dispenser ends danger of food damage from salt tablets

Uses pure Diamond Crystal Flake Salt to prevent burns, toughening, discoloration.

TODAY your best answer to stiff competition from other types of food processing is *quality*. You buy choice vegetables to insure this. Why let them be downgraded because of possible damage from salt tablets or common granular salt?

Dispenser meets challenge

Diamond Crystal's new dispenser eliminates the problem of localized salt burns from slow-dissolving tablets. It automatically dispenses dry, high-purity Diamond Crystal Flake Salt that dissolves rapidly and quickly forms a natural brine that distributes *evenly* throughout the can.

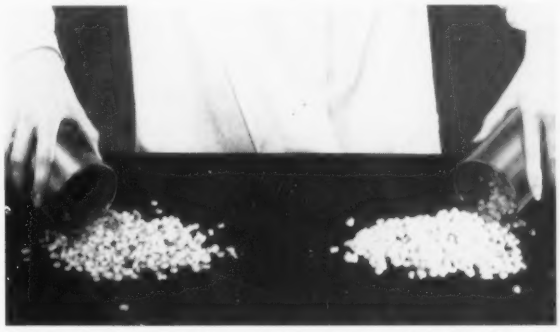
How flake salt preserves quality

Many impure granular salts with large amounts of calcium, magnesium, iron and copper can ruin quality and flavor. Their impurities react with natural pectins, oxalates and tannins in your foods to toughen skins. Leave ugly white deposits. Form soapy scum, spoil flavor. Only a *very pure* salt can avoid these dangers.

Diamond Crystal Flake Salt has the highest uniform purity of any canning salt you can buy!

Only Diamond Crystal is made by the exclusive Alberger system that produces salt *99.95%* pure. This means that you get a *true* salt flavor that enhances the natural vegetable flavors. Makes them taste better.

Photograph shows effect of salt upon corn canned with impure salt and with Diamond Crystal Flake Salt



Notice how iron and copper impurities in the granular salt used turn the corn on the left brown. *Pure* Diamond Crystal Flake Salt has protected the flavor and golden appetite appeal of the corn on the right.

New Diamond Crystal salt dispenser automatically measures salt into cans. Will not dispense salt if can is missing from the line. The above photograph was taken at the E. B. Muller Plant in Pigeon, Michigan.

You can use Diamond Crystal Flake Salt with confidence, either dry or in brine. It never injures your choice vegetables. Helps keep them in their proper grades. And Diamond Crystal Flake Salt comes in a wide range of *precision screenings* to suit every one of your products.

Mail this coupon for complete information on new Dispenser

Canners Technical Service, Dept. F-2
Diamond Crystal Salt Co.
St. Clair, Michigan

Please send me complete information on your new canning salt dispenser.

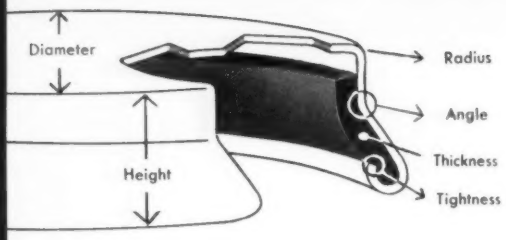
Name _____

Position _____

Company _____

Street _____

City _____ **State** _____



PROBLEM: to keep them all constant!

Not as well known as it should be is the powerful effect which *certain critical dimensions in closures* exert on *overall performance of glass packaging lines.* This report, therefore, throws some necessary light on the subject of accuracy in closure manufacturing—with particular emphasis on the part that *Statistical Quality Control* is now playing in the production of Vapor-Vacuum Caps.

Report on "S.Q.C." –new milestone of progress in closure performance

...an account of Vapor-Vacuum experience in the use of Statistical Quality Control in closure manufacturing... and its benefits to operational efficiency and quality protection in the glass packer's operations.

After several years of plant-wide experiment and experience, White Cap is now able to announce a new milepost in the never-ending effort to achieve perfect closure performance.

This new high has been attained, in large measure, through application of the scientific principles of *Statistical Quality Control*—("SQC" for short).

For food packers, the developments made possible by "SQC" have extreme significance because of the ever-present relation between *closure performance* and *packaging line efficiency.*

Absolutely vital to every glass packer is the relation between closure performance and the speed and smoothness of its packaging lines. When closures don't conform consistently to specifications, the whole packaging line suffers. Such minute items as gasket thickness, skirt angles, diameters, radii, etc., must be held within watchmaker's tolerances. When they don't, the food packer's production may be seriously affected.

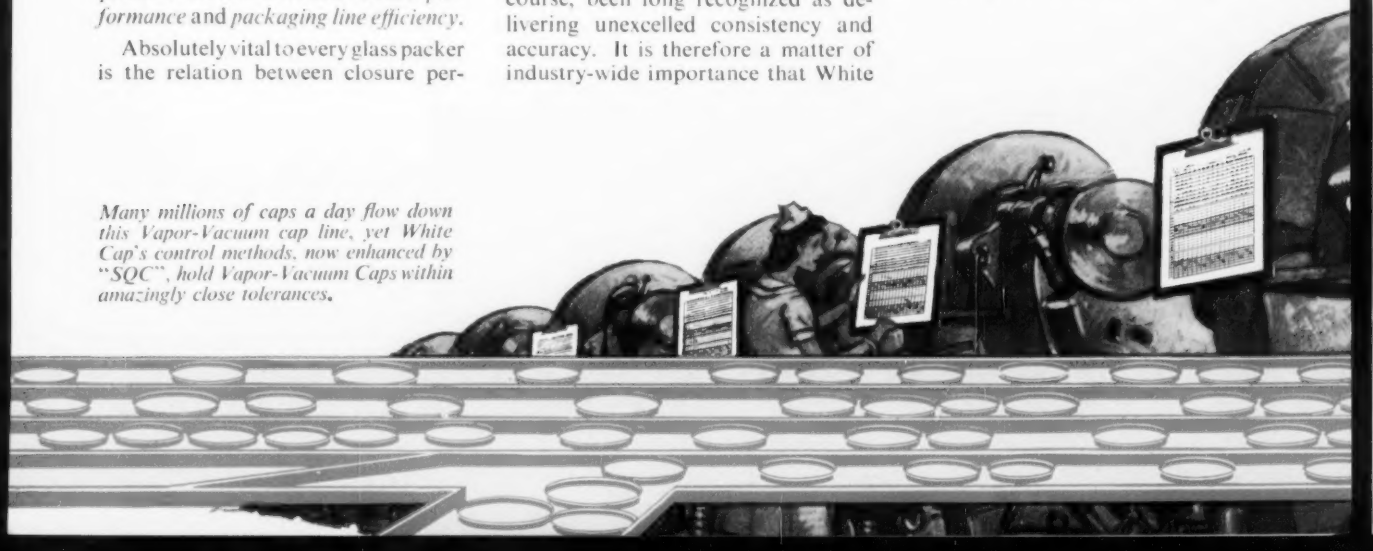
The Vapor-Vacuum position

Vapor-Vacuum closures have, of course, been long recognized as delivering unexcelled consistency and accuracy. It is therefore a matter of industry-wide importance that White Cap is able to report that this most accurate of all closure lines, through "SQC", has achieved even greater accuracy than ever before.

Mathematics only!

What is "SQC" in closure manufacturing? In essence, it is simply the use of certain basic principles in mathematics and laws of probability to govern quality control activities. By the use of these principles, *the results of each man-hour spent on Quality Control are multiplied,* so that a very substantial improvement in control is effected without increase in costs.

At work in the White Cap plant, "SQC" is actually visible only as a little chart-report hanging along the closure production line. Through these



Many millions of caps a day flow down this Vapor-Vacuum cap line, yet White Cap's control methods, now enhanced by "SQC", hold Vapor-Vacuum Caps within amazingly close tolerances.

Mathematically certain and provable: The packer of foods-in-glass is better off, by far, when his closures are made under the Statistical Quality Control methods used in the Vapor-Vacuum plant

charts, the Quality Control Department has a remarkably informative running record of conformity to the "specs" in each machine's operations *—based on "SQC's" mathematical formulas of sampling and time intervals.*

If performance slips out of line, the lapse is almost instantly revealed; the machine is stopped; corrective action is taken, and the questionable product is isolated and re-inspected.

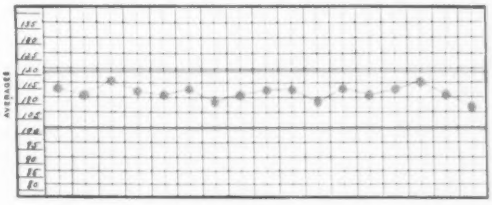
This sequence of action has profound effects. Because of the effectiveness of its mathematical principles, it approaches the ideal of quality control which would exist *if every cap had full individual inspection.*

Further, it performs this feat with a net reduction in inspection time.

At a penny apiece . . .

Close dimensional control, in a penny product such as Vapor-Vacuum closures, has long been rated as an outstanding feat of modern mass production. Now, with "SQC" making these dimensional controls *even more exact*, food packers can look forward to an era of ever-increasing efficiency and smoothness in their glass packaging operations.

(More about "SQC" next month.)



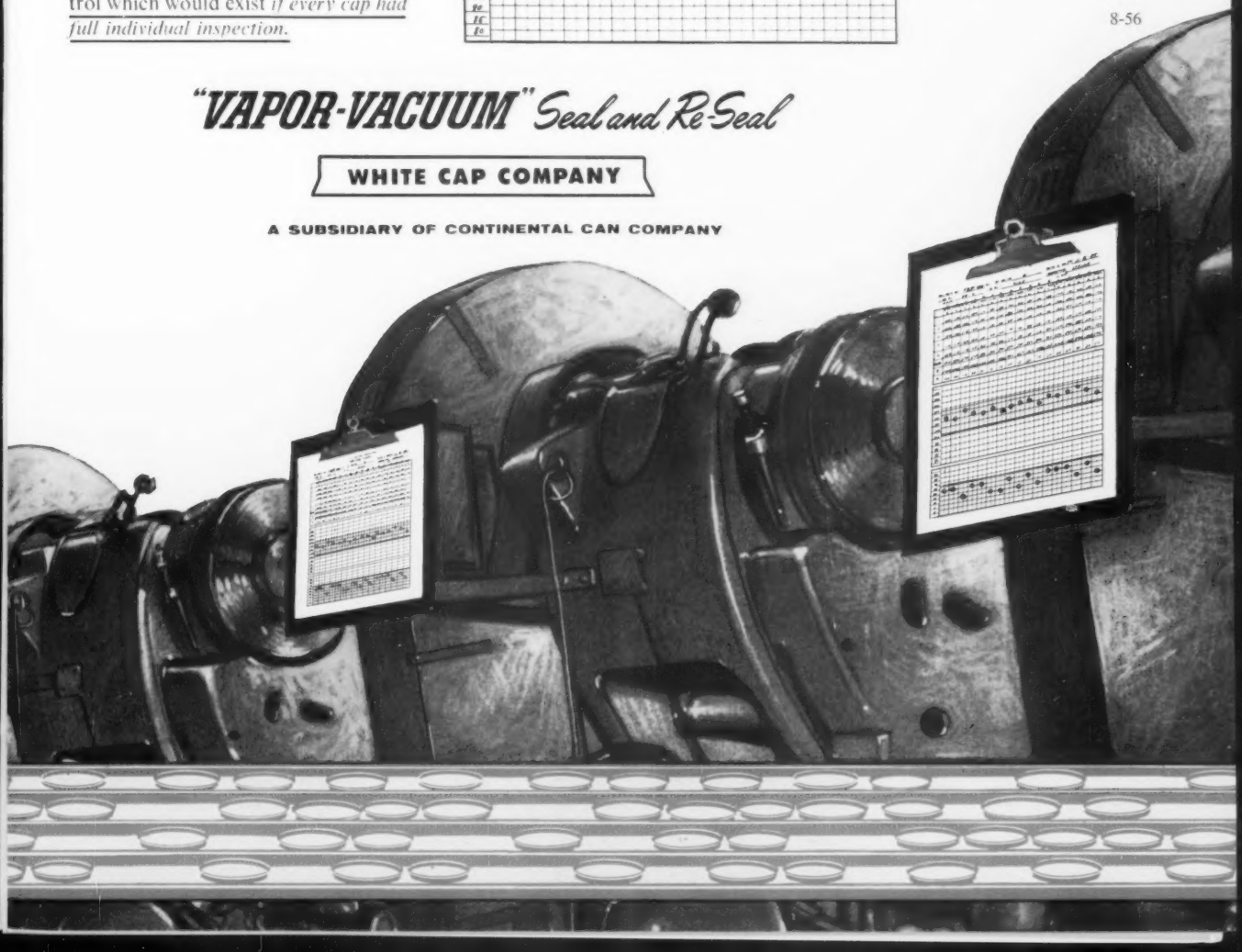
At a glance, a completely indicative hour-by-hour study of conformance to "specs" on each individual step in the making of a closure.

8-56

"VAPOR-VACUUM" Seal and Re-Seal

WHITE CAP COMPANY

A SUBSIDIARY OF CONTINENTAL CAN COMPANY



WILBUR A. GOULD, PH.D.

Ohio State University

Quality Control Editor

Quality Control Clinic

Better Foods Make Better Business With Government Cooperation

Just 50 years ago questionable – and sometimes poisonous – chemicals were being added to foods as preservatives. Unscrupulous companies were able to dodge the legal restraints of state laws in manufacturing food.

From these conditions a half-century ago to the present operation of the Federal Food and Drug laws, there is a story of successful government and industry teamwork.

The Food and Drug Act of 1906 was the beginning of federal legislation. Since then there has evolved an ever firmer, friendlier and more effective partnership of government and the food industry. Today the Food and Drug Administration of the U. S. Department of Health, Education and Welfare and the many state and local enforcement agencies work closely with industry to assure consumers of the most wholesome food possible.

State Laws First

Massachusetts led the way, in 1784, with the first general food law in the United States. In 1850 California enacted a pure food and drink law. By 1900 most of the states had similar laws – but the laws were not uniform. Foods that were "pure" in one state might be banned by another. This situation became more and more cumbersome for the food industry. Finally, with other responsible citizens, food manufacturers urged the passage of protective Federal legislation which, in interstate commerce, would be the same for all states.

Even before 1900 the food industry was making great progress in the preservation and distribution of its products. Canning was moving from the home kitchen to large factories. More markets were offering canned corn, tomatoes, asparagus and pineapple. Food packers were experimenting with new chemical preservatives. Time-honored ingredients like salt, sugar and vinegar were followed by new chemicals which could improve the keeping quality, color and flavor of perishable foods. Unfortunately, certain "chemical antiseptics" were used which were of questionable safety. Some were actually poisonous.

Dr. Wiley Appointed

The state chemists had been among the first to advocate a Federal food and drug law. They found a fighting champion in 1883 when Indiana's State chemist, Dr. Harvey W. Wiley, came to Washington. He was appointed Chief Chemist of the United States Department of Agriculture. From that position he directed a campaign of food and drug enlightenment whose beneficial effects are still felt everywhere today.

He was concerned about the use of formaldehyde, salicylic acid, and other chemicals as preservatives for foods. Were these foods safe and wholesome when they reached the home? Dr. Wiley found out. In the famous "poison squad" experiments, a group of young volunteers ate foods containing measured doses of the suspected chemicals and reported their symptoms.

Mrs. Harvey W. Wiley cuts the ribbon at the opening of an exhibit in the Smithsonian Institute, Washington, D.C. in June, commemorating the 50th anniversary of the Federal Food and Drug Laws.

These experiments, given wide publicity, dramatized the need for federal control. Dr. Wiley's crusade was strongly supported by responsible members of the food and drug industries and by authors, magazine writers and newspaper reporters. Women's organizations were particularly helpful in telling the public why "there ought to be a law." Industry and the public recognized a need for government regulation in a field in which the people did not have the knowledge necessary for self protection.

Finally, after much debate, Congress responded. On June 30, 1906, President Theodore Roosevelt signed the Food and Drugs Act and the Meat Inspection Act. The "Pure Food and Drug Law," as it was popularly known, went into effect in 1907.

During that year, enforcement officials set up laboratories over the country, appointed inspectors to collect samples of foods and drugs, and devised new methods of testing them.

The Act of 1906 was unquestionably the strongest in the world for its time. But time sped on, bringing important discoveries in medicine and nutrition . . . remarkable advances in the production of crops and livestock . . . in the manufacturing, processing and distribution of foods and drugs. In a few years this law was lagging behind the growth and progress of industry.

More Changes

Again, as in 1906, government, industry, and enlightened citizens urged the passage of protective legislation. They wanted a law stronger and more comprehensive than the original "Pure Food and Drug Law." In 1938, Congress passed the present Food, Drug and Cosmetic Act, which corrected most of the weaknesses of the Act of 1906. The purpose of the present law is to insure that foods, drugs, therapeutic devices and cosmetics shipped in interstate commerce, or imported into the country, are pure and wholesome, safe to use, made

(*Continued on Page 38*)

You get more than PERFECT COLOR

There's strong *appetite appeal* in Muirson's nature-color reproduction. And that's what sells food. But just as important, your labels must be handled efficiently — from original design straight through to delivery *on time*. Whether your next order is large or small, it will pay to consult a *specialist*.

because MUIRSON *specializes* in LABELS

This page produced in its entirety by Muirson Label Co. Inc.
Complete plants in San Jose, Calif.; Peoria, Ill.; and Meriden, Conn.

Effects of Salt-Acid Ratio on Quality of Sauerkraut

By Carl S. Pederson
Margaret N. Albury
Willard B. Robinson

Cornell University

(*Conclusion*)

Today kraut is more uniform in salt and acid and superior in quality to that packed in 1932 and 1940. If kraut is packed with 2-1/4% salt and is well fermented the raw product may contain 1.8 to 2.0% acid. Such krauts would have ratios of 1.25 to 1.12 if canned without addition of salt brine. However in making kraut, the brine that settles to the bottom of the tank is always higher in salt than that found thruout the tank. Thus, when kraut is canned, unless all of such brine is used, the salt-acid ratio will be lower. When additional salt is used to prepare brine for filling cans, the ratio will be raised.

When kraut is not well fermented, and it contains only 1.2 per cent acid for example, the ratio of salt to acid will be high, 1.87. By careful handling such kraut may be canned to contain sufficient acid but the salt-acid ratio will be high. A practice used years ago in some companies, but seldom employed today, was to add more salt in canning brine to make up for deficiency of acid. Since the proportion of salt to acid was therefore increased, this practice did not compensate for lack of flavor resulting from low acidity. A further important factor in control involves the relative amounts of salt and acid present in the kraut brine and in solid shreds. Kraut when first fermented will appear high in acid. However this acid has not necessarily penetrated into the shreds of kraut, and thus the acidity determined on the brine may actually be lower for the entire sample of canned kraut than the brine titrations show. This would give a false prediction of final salt-acid ratio when equilibrium is later reached.

To summarize briefly, the quality of sauerkrauts in the salt-acid ratio range of from about 1.1 to about 1.7 has been shown to be superior to that kraut showing extreme ratios of salt to acid.

Since the salt and acid content is so important in influencing quality of kraut it would follow that more care should be exercised in control of the salt content in making kraut. The only reliable way to obtain proper proportions is to weigh both the salt and shredded cabbage. If fresh kraut brine is drained during filling of the vats, additional salt may be needed to raise the salt to the proper level.

It would seem advisable to exercise greater care than used at present in charting the acidity development in tanks. From such records, the tanks should be selected for canning in such order that the krauts that have fermented most rapidly are canned first, regardless of the order in which the tanks were filled.

During the canning operation, the salt and acid content of the product should be determined at frequent intervals and a good balance maintained.

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Table 1. — The Acidity of the Kraut in Tanks from Factories in 1954.

Date of filling of vat	Acidity of Kraut Brine in Tanks on: October 29 Factory No. 3	November 2 Factory No. 1	November 15 Factory No. 2	February 5 Factory No. 4
Sept. 24	—	1.55	1.92*	—
" 25	—	—	1.60	—
" 27	—	1.42	1.96	—
" 27	—	—	1.88	—
" 28	1.60	1.51	2.10	—
" 29	—	2.00	1.95	—
" 30	—	2.02	2.04	—
Oct. 1	—	1.98	2.06	—
" 2	—	—	2.05	—
" 4	—	2.15	1.92	—
" 5	1.80	—	1.92	—
" 6	1.67	1.83	1.83	1.98
" 7	1.30	1.42	1.65	—
" 7	—	—	1.63	—
" 8	—	1.02	1.26	—
" 9	1.36	1.25	1.10	1.72
" 9	—	—	1.48	—
" 11	—	1.80	1.87	2.00
" 12	1.72	1.86	1.90	—
" 12	—	—	2.08	—
" 13	—	1.85	2.15	—
" 14	—	1.80	2.10	—
" 14	—	—	2.05	—
" 15	1.80	1.82	1.92	—
" 15	—	1.68	1.80	—
" 16	—	—	2.08	2.20
" 16	—	—	1.72	2.07
" 18	—	1.12	1.51	—
" 18	—	—	1.35	—
" 19	—	1.15	1.38	—
" 19	—	—	1.23	
" 20	—	0.92	—	1.95
" 21	—	0.92	—	—
" 22	—	0.94	—	2.05
" 25	—	0.94	—	2.00
" 26	—	0.95	—	—
" 26	—	1.05	—	—
" 27	—	—	—	2.10
" 30				2.10
Nov. 3				1.92
" 6				1.82
" 7				1.70
" 9				1.32
" 11				1.25
" 15				1.68
" 19				1.27

*8 tanks filled previously, all show 1.92 per cent or more acid.

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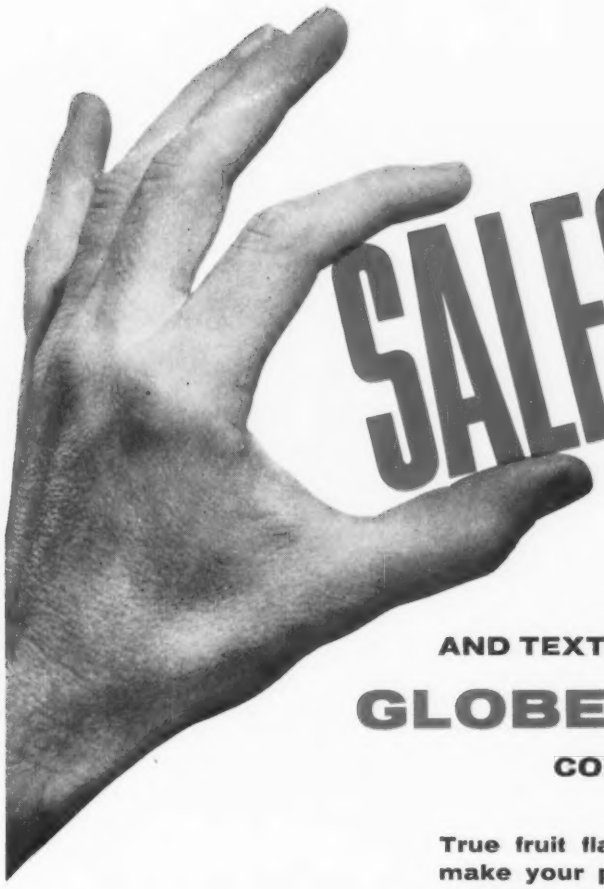

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Weed Control for Direct-Seeded Tomatoes and Plant Fields

By
G. F. Warren

Department of Horticulture
Purdue University

Weeds are one of the biggest factors that limit the acreage of direct-seeded tomatoes. Tomato seeds are slow to germinate, especially during cool spring weather, and many weeds emerge before the tomatoes come up. Weeds compete with young plants and increase the cost of cultivating, thinning and blocking. Growers also are plagued with weeds and grass which reduce the quality of plants and increase the cost of pulling and sorting. Five years of research and two years of field-scale trials in Indiana have shown that weeds can be controlled in direct-seeded tomatoes by using certain chemicals.

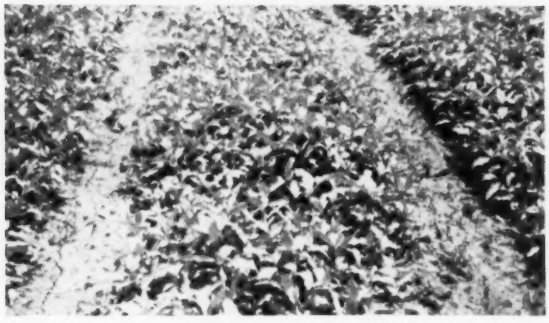
Chemical Mixture Proves Best

Treatments used are of the pre-emergence type, that is, the treatments are applied before the tomatoes come up. During the experiment a mixture of two chemicals was found that killed weeds more completely than any other one material. This is a mixture of 3 lb. of TCA (sodium trichloracetate) and 16 lb. of potassium cyanate in 50 gal. of water per acre on an overall basis. The cyanate kills the weeds that are up when spraying is done while the TCA leaves a residue in the soil that controls annual grasses which have not yet emerged. Tomatoes have not been harmed by this treatment and yields have been the same as on hand-weeded plots. In commercial field trials this mixture has been highly successful. Weeds in the unsprayed middles were so large that they would have hidden the tomatoes in the rows making cultivation and later blocking and thinning almost impossible.

Another material that has been successfully used is Stoddard solvent (a petroleum product). In the experiments and field trials it was used undiluted at the rate of 50 gal. per acre. It killed practically all annual weeds that were up except ragweed. But, since it left no residue in the soil it did not control the grasses nearly as well as the TCA-sodium cyanate mixture.

Band Application Cuts Cost

The rates of application given here are for overall coverage, but it is more economical to spray only a band over the row. When this is done the rate of application of chemicals must be reduced in proportion to the actual area sprayed. The cost of chemicals with one-fourth coverage is only about $3.00 per acre. A low-pressure sprayer is desirable and a good fan-type nozzle essential.



Direct-seeded field shows large growth of weeds between treated strips over rows. Plants are so small they are hardly visible.

Best results have been obtained when spraying was delayed until the first tomato seedlings were just ready to break ground. This can be determined by digging in the rows in several parts of the field at frequent intervals after planting. The timing is important because the longer spraying can be delayed the more weeds will be killed. However, if delayed too long the tomatoes will be up and cannot be treated without killing the plant.

The same treatments should prove valuable to tomato plant growers where weeds and grass increase the cost of pulling and sorting plants. Part of a field was treated in southern Indiana in 1955 with excellent results.

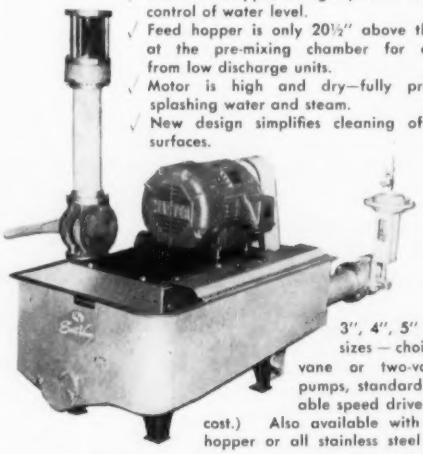
Kroger Keeps Its Quality

Production lines for preserves are geared to fixed standards of quality in Kroger's Cincinnati plant. See page 20.

NEW SCOTT VINER HYDRAULIC ELEVATOR

Handles any food commodity that can be elevated or conveyed in water—hot, cold, or refrigerated.

This new unit combines all of the outstanding features of earlier models of Scott Viner elevators plus—



- The new hopper design permits more accurate control of water level.
- Feed hopper is only 20½" above the floor level at the pre-mixing chamber for easy feeding from low discharge units.
- Motor is high and dry—fully protected from splashing water and steam.
- New design simplifies cleaning of all exposed surfaces.

3", 4", 5" and 6", pump sizes — choice of single-vane or two-vane Weinman pumps, standard drive or variable speed drive (at additional cost.) Also available with stainless steel hopper or all stainless steel contact parts.

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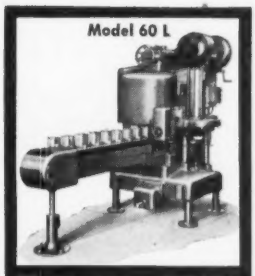

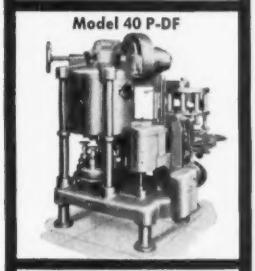

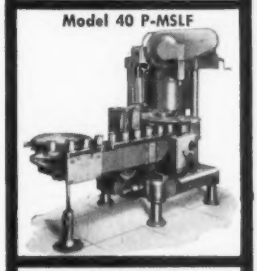

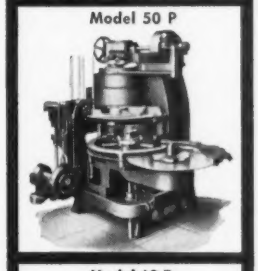

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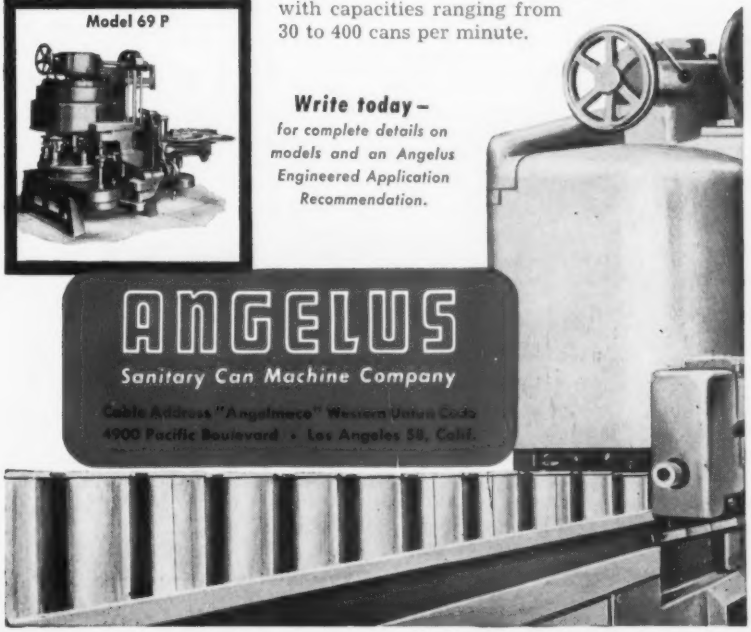

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Kroger Preserves

(*Continued from Page 20*)

are mechanically agitated to put the sugar in solution.

Next the juice-sugar solution is drawn into the vacuum cooker along with the juice extracted from the fruit. The fruit stays in the preheat kettle. The juice-sugar solution is cooked under 26 in. of vacuum at 160°, until the soluble solids content is 85%.

After the solution reaches this point the fruit is added. The strawberries are drawn into the vacuum kettle and the remainder of the juice is extracted from the fruit by continued cooking. The internal solids of the fruit are raised to 69% soluble solids. The solution the fruit is suspended in will be approximately 80% soluble solids, which must now be reduced to meet the accepted standard of 68% necessary for profitable manufacture. At this point, therefore, the pectin acid solutions are added to reduce the soluble solids of the solution to the level of that of the fruit—68%.

A preliminary production formula is first determined and then confirmed or revised. The laboratory makes a thorough re-checking of the first production batch.

The solids of the fruit and solution are now equal and the fruit neither floats nor sinks, but rather remains suspended.

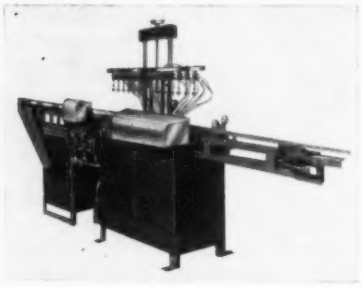
The next step is sterilization by heating to 210° and the preserves are now transported by air pressure to the holding vat for filling, losing about 10° in the process.

In passing from the holding vat to the filler hopper the temperature is further reduced. As it is bottled the temperature has been reduced to about 190°. It is then vapor vacuum sealed, passed through a spray

(*Continued on Page 41*)

What's New?

Supplies • Equipment • Trade Literature



Straight Line Filler

A new automatic filling machine engineered for versatility and simplicity is offered by the Packer Machinery Corporation, 30 Irving Place, New York City. The manufacturer notes that the model PVA is pneumatically operated with a variable speed drive. The operator starts the machine by a push button, then feeds bottles into the intake side.

All electronic and pneumatic equipment is of standard manufacture. Changing from one container size to another can be done without additional parts or services of a skilled mechanic, the manufacturer said.

Mold Inhibitor

Sorbistat, a compound which reportedly inhibits mold and yeast growth in food products, is now available from Chas. Pfizer & Company, Inc., 630 Flushing Ave., Brooklyn 6, N. Y.

The compound, Pfizer's brand of sorbic acid, has been tested in such foods as cheese and cheese products, pickles, fish, soft drinks, prepared gelatin fruit salads, potato salads, chocolate syrup and cakes, the company reports. It does not affect the appearance, taste or odor of foods, and its safety has been established by leading research institutions.

The product is a stable, easily stored, white crystalline powder which may be applied by dusting.

Faster Wrapper

Western-Waxide calls it 'Super Glosseal'. It is a new high-gloss waxed paper overwrap that permits faster wrapping machine speeds. Western-Waxide Specialty Packaging Division of the Crown Zellerbach Corporation said that it can be used on standard wrapping machines and that the printing and illustrations "have almost a third dimension appearance."

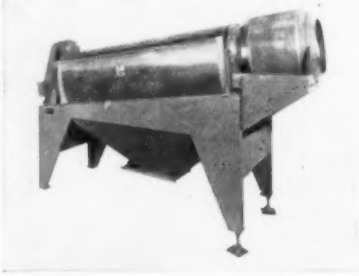
Automatic Can Sealer

According to the manufacturers, Resina Automatic Machinery Company, Inc., Brooklyn, the first and only automatic can sealer of its type, is now available to the edible oil and allied canning industry.

In the new machine cans go directly to the sealer from the filler. It can handle small or large runs with equal efficiency using the 1 in. seal.

Green Bean Machines

Two new machines for packing green beans made by the Food Machinery and Chemical Corporation, San Jose, Calif., will be available to canners this season. Both the new grader and the new snipper have the advantages of low operating and maintenance costs and high production capacities, the manufacturer said.



The grader is available as a single grader for two segregations or a double grader for three segregations. It can be made to employ any combination of size openings required.

The machine will handle approximately 800 lbs. per hr. for whole and fairly straight beans. On cut beans the capacity increases to 1,000 to 1,500 lbs. per hr.

The bean snipper is designed to snip off both ends of the bean in a continuous operation. It is available in two models. One model will handle U. S. standards No. 1 through 3. The other will handle 4's and larger.

The medium size snipper has a capacity of approximately 1,000 lbs. per hour on pre-graded and fairly straight beans. The larger machine has a capacity of 1,500 lbs. per hour.

Automatic Carton Unloader

An automatic machine, used with an automatic can unscrambler, can feed containers to filling lines at rates up to 1,200 cans per min.

American Can Company, manufacturer of the new machine, said that the new automatic carton unloader is the first successful unit of its kind introduced into the canning industry.

The new system is applicable at plants where large numbers of cans are received in reshipper cartons.

Soups to Sauces – Dry

Food processors in the convenience food industry will have available to them a new line of dry products manufactured by Dodge and Olcott, Inc., 180 Varick St., New York City. The Blend and Serve line includes gravies, sauces, salad dressings, soups, powdered beverages, milk shakes, lemonade powder and seasoning salts. The products require only packaging and are immediately ready for use.

Automatic Banding Machine

An automatic machine which fits a cellulose band around the top of a bottle has been installed in Pfeiffers's Food Products, Inc., Buffalo, N. Y. The manufacturer of the machine, Economic Machinery Co., division of Geo. J. Meyer Manufacturing Co., Worcester, Mass., said that this is the first automatic banding machine in use in the food industry.

The machine replaces hand operation. It applies bands from a roll at the rate of 75 per min.

(*Continued on Page 41*)

Using Salt Efficiently

by **INTERNATIONAL SALT COMPANY, INC.**—America's largest producer of salt

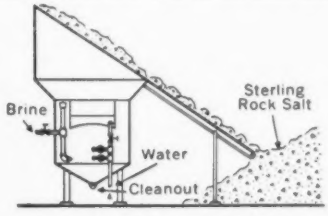
Combining Storage and Feeding Makes Salt Handling Easier

To save both time and manpower in salt handling—many plants have installed salt-storage units which feed directly into a salt dissolver. These units are particularly useful in plants where large tonnages of salt are consumed every day. But even in smaller plants, combination storage and feeding units are proving valuable. This is because they cut down on the amount of floor space needed to store salt.

In plants where floor space is at a premium, salt is often purchased in bags to permit high stacking. Here, too, combination storage and feeding units can produce substantial savings. They permit the purchase of economical bulk rock salt—and reduce salt-handling costs to a minimum.

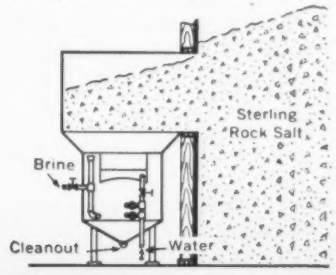
What about one of these units for your plant? Here are six of the most practical designs for combining salt storage and feeding. One of them—or an adaptation of the basic design—may be effective in saving floor space and lowering salt-handling costs for you.

1. Filling dissolver from floor pile. If salt must be stored in bulk on the same floor



as the dissolver (all dissolvers shown here are International's famous Sterling Model Lixator), an excellent feeding device is a portable belt conveyor. The best type for moving salt is made of aluminum with a rubber belt, and is between 16′ and 20′ long. The same conveyor moves salt not only from a floor pile into the Lixator, but also from a car or truck into the plant.

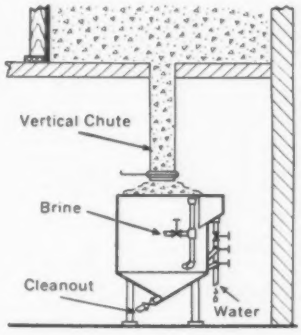
2. Wall-type hopper, bolted directly to an opening in a salt-storage bin. As long as



the salt supply in the bin is sufficiently high to permit gravity flow into the Lixator hopper, feeding will be automatic. When salt supply is no longer self-feeding, the operator stands on the salt in the bin and shovels directly into the hopper.

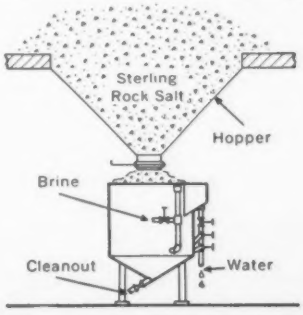
3. Overhead storage with gravity feed into hopper. This design is often used when uninterrupted salt feed is needed, but the storage floor has relatively little salt capacity. A cylindrical-type hopper directly under the hatch holds a large amount of salt for feeding the Lixator—and acts as a substantial secondary storage unit. Ordinarily, though, if salt can be stored above the Lixator, the next design is preferable.

4. Overhead storage with vertical chute. This direct-feed unit is a practical, econom-



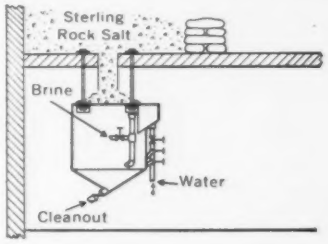
ical way of operating the Lixator. If storage capacity on floor above is large enough, no hopper is needed, which means a considerable saving. Feed is automatic because of angle of repose for salt.

5. Pyramid-type hopper design. This is another variation of overhead feed, coupled



with large storage capacity. But if storage space on floor above is limited, this design is also practical. Salt can simply be dropped into the hopper through a large hatch with a removable cover.

6. Lixator hung above floor, to save floor space. A very desirable design when



floor space is at a premium. Design here also shows use of a few salt bags to act as a storage-bin wall—in lieu of a permanent bin structure.

One final note about the equipment shown here. All Lixators operate on exactly the same principle. They vary only in size and capacity, and in methods of delivering salt to the dissolver unit. All Lixator designs are exclusive International Salt Co. developments, properly protected by patents and patents pending.

TECHNICAL SERVICE WITH YOUR SALT

Through skilled and experienced "Salt Specialists," International can help you get greater efficiency and economy from the salt you use. International produces both Sterling Evaporated and Sterling Rock Salt in all types and sizes. And we also make automatic dissolvers in metal or plastic for both kinds of salt. So we can recommend the type and size of salt most perfectly suited to your needs.

If you'd like the assistance of an International "Salt Specialist" on any problem concerning salt or brine—or further information on salt storage and methods of feeding salt—just contact your nearest International sales office.

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FOR INDUSTRY, FARM, AND THE HOME—
STERLING SALT
PRODUCT OF INTERNATIONAL SALT CO., INC.

The Market Place

News of Promotion & Selling

Green Olive Week

The week of September 6-15 has been named as Green Olive Week by the Green Olive Commission. A national publicity campaign on green olives and their versatility in menu planning is being directed through women's food pages in daily newspapers, women's magazines and on radio and television homemaker shows. The Commission recommends point-of-purchase reminders to tie in with the national campaign.

New Jar for Duke's

The C. F. Sauer Company, of Richmond, Va. and Greenville, S. C., maker of Duke's Home Made Mayonnaise, is packaging its product in a new pint jar. The mayonnaise as well as other food products of the C. F. Sauer Co., are distributed through jobbers and directly to food stores throughout the South.

Main Dishes for Babies

Four more "main dish" items have been added to the line of foods for older babies by the Gerber Products Company. The latest additions are junior split peas with ham, junior beef and noodles with vegetables, junior egg yolks and ham, and strained egg yolks and ham. The mildly seasoned combination foods are for "growing up toddlers who are not yet ready for regular table fare."

Lemonade in Cartons

The Home Juice Company of Chicago is marketing a refrigerated ready-to-drink lemonade in quart and one-third quart cartons. The larger size is primarily for store delivery and the smaller for cafeterias and vending machines.

Pickles for Picnics

The National Pickle Packers Association has noted that more families pick pickles for picnics than any other food except salt and pepper. Eighty-three per cent of the families who go on picnics usually take along pickles. Another 15% of the families bring pickles occasionally. The figures were taken from a survey conducted by E. I. du Pont de Nemours & Co., Inc.

New Sandwich Spreads

A line of new sandwich spreads in six meat and flavor combinations is now being marketed by Armour and Company. The spreads are packed in re-usable 4-3/4 oz. party glasses. They include liver with bacon; beef with garlic and dill; ham; beef with pickle and peppers; pork and beef; and beef with barbecue flavor added. The packer is suggesting a retail price of 29 cents per glass.

Dried Beef

Hygrade's and Kingan's sliced dried beef is packed in tapered tumblers which show the contents with all the appetite appeal. The tumblers, of 2-1/2 and 5 oz. capacities, are vacuum sealed with colorful red and white coated closures.

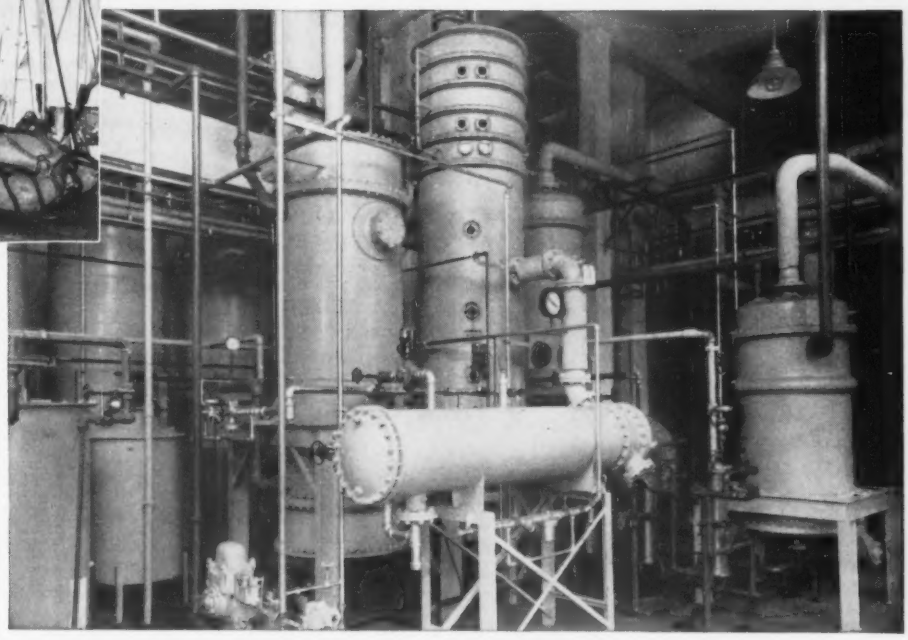
The dried beef is a product of Hygrade Food Products Corporation, Detroit, and its Kingan Division, Indianapolis.

Unfrozen Juice Concentrate

Instant-Made concentrated tomato juice which does not require freezing is a new canned product of the Instant-Made Tomato Products Company, Stockton, Calif. It comes in 6 oz. and 11 oz. cans.

In addition to the concentrate's use as a juice, it is also suitable for cooking purposes in the preparation of tomato sauce, soup, puree, aspic and other tomato dishes.

Spice Shipments are not always the same . . .



BUT CONTROLLED EXTRACTION ASSURES UNIFORMLY PURE, POTENT PEPPER FLAVOR IN SOLUBLIZED Pepperoyal®

Pepperoyal is no ordinary soluble pepper. Use the same amount of Pepperoyal in every batch of your product, and every batch will smack of the same pure pepper flavor.

True, it is processed from prime quality pepper berries. But, its real quality distinction originates in the Griffith laboratories. The potency, purity and uniformity of pepper flavor in Pepperoyal is controlled by our exclusive process of extraction.* It assures you of the same flavor quality in every shipment of Pepperoyal, or any of Griffith's Solublized Seasonings.

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Freezing News

Promotion • Selling • Research

'Wait for Model Code,' Agencies Are Advised

More information is needed before further regulations are made on the frozen food industry. This was the advice contained in a resolution of the committee on canned, frozen and processed foods of the Association of Food and Drug Officials. The resolution was adopted at a May 11 meeting in New York City.

The committee advised the development of a model code which would cover regulations on temperature and bacteriology of frozen food products and on the operation of freezing plants. But first more information is needed from research in several areas. In its resolution the committee indicated that not sufficient information is available in order to write holding temperature standards or microbiological standards.

H. C. Diehl, director of the Refrigeration Research Foundation, noted in his information bulletin, "As a result of the data now available from the Time Temperature Tolerance Research, sponsored by the Foundation five years ago, we were in an excellent position to advise the Food and Drug officials."

The committee's resolution concluded, ". . . that the Association of Food and Drug Officials of the United States recommend to federal, state and city regulatory agencies postponement of any action in connection with the adoption of legal standards for bacterial content or holding temperatures of frozen food until such time as the model code has been prepared in order to achieve uniformity which will benefit regulatory agencies as well as industry and consumer groups.

Vacuum-sealed Meats

The L. B. Darling Company, Worcester, Mass., is testing a new line of vacuum-sealed frozen meats in a supermarket in Ardsley, N. Y.

The meat cuts, 11 of them, are first enclosed in a clear plastic vacuum-sealed package and then in an outer carton. More than half the cuts are packaged to sell for under one dollar.

A full merchandising program is being used with the introduction of the new line. Two demonstrators are on duty at the Darling display-freezer in the Daitch-Shopwell supermarket in Ardsley. One of the demonstrators offers cooked samples of the meat to customers, the other explains advantages of the Darling line.

Advertisements in the Ardsley newspapers tie in with the store demonstrations.

Darling expects to use the same advertising pattern with additional chains and independents throughout the Greater New York area.

Citrus Punch

A frozen concentrate for a citrus punch is the newest addition to the Sunkist line of citrus fruit juices and ades. The new product is a combination of lemon, orange and grapefruit juice concentrate.

Frozen Food Study Urged

Many possible directions of research during the next years have been outlined for investigation in the frozen food industry.

H. P. Schmitt, chairman of the committee on frozen food research of the Institute of Food Technologists, issued his committee's comprehensive outline of research problems. Schmitt is the director of research of the National Association of Frozen Food Packers.

"The frozen food industry is well beyond the youngster stage. Annual sales are expected to surpass the $2 billion level this year. Rapid expansion into the manufacture of a wide variety of prepared foods and maintenance of quality in all frozen foods create the demand for more supporting research," Schmitt said.

New Sea Foods Line

The Atlantic Fish & Oyster Company, Chicago, is using the basic package design of its fish sticks in expanding its line of sea foods. The four new frozen, pre-cooked products in the Fry-day line are fish chips, oysters, scallops, and shrimp.

New Wrappers for Goren

The Goren Packing Company, Inc., of East Boston, Mass., traded cellophane wrappers for foil recently. The new package for their line of Whirl Frozen Meat Specialties uses background colors for identification. Green is for beef steaks, scarlet for cubed beef steaks, etc. Goren products are distributed and sold in 23 eastern states, Canada and the West Indies.

Individual Pies

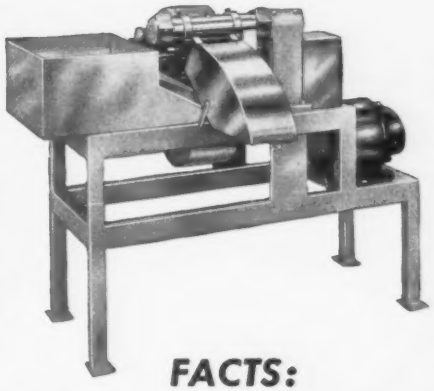
The Real Pie Bakers of Pittsburgh, Pa., are wrapping up four individual pies in one package and merchandising them nationwide. The frozen pies, apple and cherry, are "brown and serve."

URSCHEL Model F Dicer

for perfect 3/8" cubes

on Carrots, Potatoes, Beets, Onions, Turnips, Mushrooms, Cabbage, Pickles; on Pineapple, Apples and other Fruit.

Also perfect 3/8" **French Fry Potato Cuts.**



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DESIGN—unit swings open quickly for cleaning, adjustment, inspection or repair.

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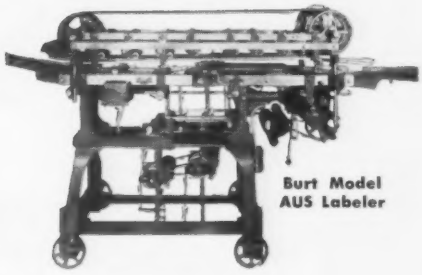
Burt's NON-STOP Labelers save time . . . without rushing the operator or impairing labeling efficiency.



Burt Model AUS Labeler

BURT'S MONEY-SAVING EXCLUSIVE FEATURE

Auxiliary feed fingers which function from both sides of the label to insure uniform label position, with no disarrangement of the label pack.

"BURT BEATS FLEETING TIME"

BURT

BURT MACHINE CO.
401 E .Oliver St.
Baltimore 2, Md.

Quality Control

(Continued from Page 24)

under sanitary conditions and truthfully labeled.

To a large extent, the Federal Food, Drug and Cosmetic Act works through the medium of the label. Labels, or inserts in the package, must give sufficient information so that consumers will know what they are buying and exactly how much. Labels must also include the name and address of the responsible manufacturer, packer or distributor. The label tells the truth in plain sight and plain words. In processed foods, ingredients must be listed in the order of their predominance. Containers must fit the contents. Labels on foods enriched with vitamins must state the vitamin content. Official standards are established for several canned fruits and vegetables, tomato catsup, jams, jellies, preserves and other foods.

Swift Changes

Probably no law can keep abreast of the swift changes in foods and drugs. As pointed out recently by a Citizens Advisory Committee which reviewed the work of the Federal Food and Drug Administration, "a revolution is occurring in the field of food technology, exemplified by new chemical additives, radiological sterilization, and 'cooked ready-to-serve' and frozen foods." While its complete revision has not been necesary, the 1938 Act has already been amended a number of times.

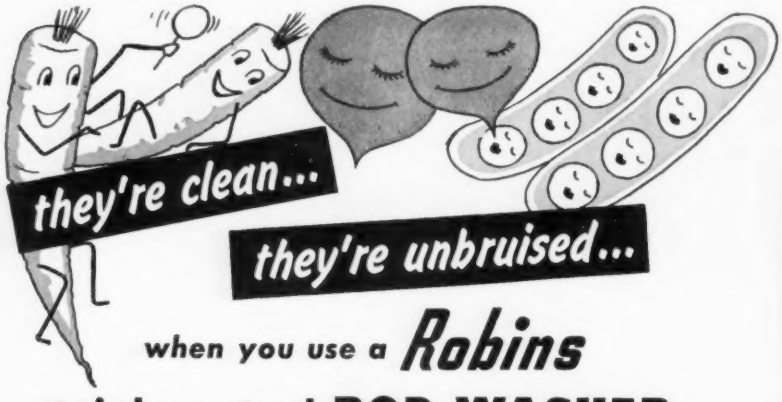
What does all this mean to the quality control technologist or the food processor? The best answer is found in the Advisory Committee's major recommendation. This was to strengthen the resources of the Federal Food and Drug Administration and state food and drug departments, so they can keep abreast of scientific advances in food technology. In a statement before the New York State Bar Asociation in 1954, Commissioner Crawford stated, "About 96,000 manufacturing, processing, and warehousing establishments do a substantial interstate business. At our current rate of operations each of these can be inspected once in about 12 years. The amount of these commodities to which attention can be given annually through inspection of factories and warehouse and by examination of representative official samples from interstate shipments is less than 1/10 of 1% of the total interstate traffic. Official samples are collected only when information, usually obtained by inspection, indicates probable violations. Over the past several years an average of about 20% of the official samples have been found so seriously in violation as to warrant court action."

Thus, these resources are needed to increase personnel, purchase needed equipment and modern buildings to carry out the work. Cooperation is needed today more than ever from all three groups—industry, responsible citizens and government. Not only is cooperation needed to support their activities, but industry should be most familiar with the existing regulations and do their utmost to prevent unwholesome food from entering channels of trade.

Perhaps the most heartwarming statements that have been appearing in the Food and Drug Administration's release recently are those noted by the FDA inspectors, when making return visits to food plants previously found operating under objectionable conditions, such as, "hiring of quality control personnel to assure the use of sound materials and to maintain proper plant sanitation."

References

1. You . . . and Your Foods, Drugs and Cosmetics. 50th Anniversary Committee of the Association of Food and Drug Official of the US.
2. Crawford, C. W. Legislative and Administrative Progress in 1953. 9th Ann. Meet. NY State Bar Assn. 1954.



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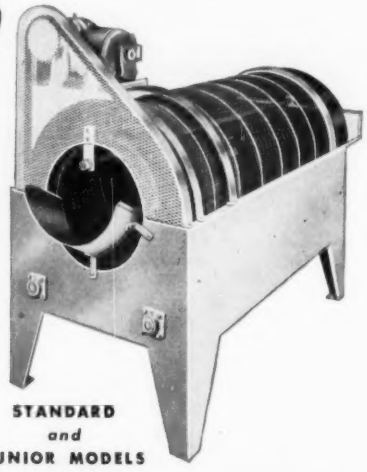
This general purpose washer will soon pay for itself by cutting down on bruised or damaged stock. It thoroughly washes raw stock and removes skins from blanched stock with equal efficiency. Use it for string beans, lima beans, peas, beets, carrots, diced vegetables . . . there are 5 standard rod spacings to handle almost any type of stock.

Become acquainted with the many benefits that can be yours with a Robins Stainless Steel Rod Washer. See your Robins Representative or write for complete details on specifications, prices, delivery information.



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for gloss...

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It's true. Clinton products for canners and preservers — corn syrups and Clintose brand dextrose — add greater sales appeal to your jams, jellies, preserves and fruits.

Clinton *Canners' Special Sweet* corn syrup, for example, improves color — texture — gloss — flavor. It actually enhances the natural fruit flavors — never dominates them.

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. . . and remember : technical service in connection with your specific problems is available without obligation

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FROM THE WORLD'S CORN CENTER

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CLINTON CORN PROCESSING COMPANY
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GUARD your PROFIT MARGIN
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EXACT WEIGHT

There's no guesswork in any packing job when you use EXACT WEIGHT Scales! You pack accurately and uniformly and your profit is guarded in every package. Engineered for the Packing industry, each feature is designed to speed production, cut production costs and eliminate overweights. Built compactly to save space, they are made of rugged construction backed by 40 years' experience in specialized weighing. Maintenance costs are kept to a minimum.

Model 213, above, has a 3 lb. capacity. Other EXACT WEIGHT Scales are available in a wide range of capacities and sensitivities to meet every requirement of the Food Packing industry. Consult us on your weighing problems.

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FOR SALE: Niagara #510-28 type 316 Stainless Steel Filter, 510 sq. ft.; Fitzpatrick Comminuting Machines, Models D, F & K; (1) Hope type 18 semi-automatic stainless steel single piston filler; (5) Stainless Steel Tanks from 30 gal. to 10,500 gal. cap. (Some with mixers). (25) Aluminum Storage Tanks up to 3200 gal. cap. (30) Stainless Steel and Stainless Clad Steam Jacketed Kettles from 40 gal. to 500 gal. (Some with agitators). Lot of Welded Steel Tanks with Lastiglas and mammut lining (from closed breweries)—4300 gal. to 23,000 gal. sizes. 30 Wood Tanks—4500 gal. to 14,000 gal. sizes.
PERRY EQUIPMENT CORP., 1405 N. 6th Street, Philadelphia 22, Pa.

USED and **REBUILT CANNING** and **FROZEN FOOD MACHINERY,** complete plant layout for greater efficiency from field to warehouse, stainless steel equipment made to order, list your surplus equipment with us. **OTTO W. CUYLER,** Webster, N. Y., since 1912.

Choice Business Opportunities

FOR SALE: Cannery located centrally in one of best farming areas in the east, in close proximity to large markets and with excellent labor pool. As equipped has capacity of fully 300,000 cases of four of principal vegetables in sizes from #303 to #10. ALLIED INDUSTRY OWNER will sell at favorable price and terms, with possession immediate or prior to 1957 season. Write Box #105, Food Packer.

FROZEN FOOD: Cold Storage-Locker Plant. Modern plant, Pa. town, 946 lockers, freezing, storage, smokehouse, aging rooms; sales $2000 month. Other interests compel selling property and business, priced right.
APPLE CO., BROKERS, CLEVELAND 15, OHIO.

TWIN FALLS business property, 100 ft. front, trackage. May be used for warehouse, cannery, or packaging peas or other seeds. Now used as seed production plant. K. L. Jenkins, Realtor, Twin Falls, Idaho.

Help Wanted

WANTED: College graduate major in chemistry or food technology for work in Midwest pickle plant quality control and research department. Replies will be held in strict confidence and should include education, age, experience, and present salary. Write Box #106, Food Packer.

Position Wanted

Experienced food technologist and production superintendent available for position in the food field. 7½ years experience in cheese spreads, salad dressings, all pickle products. B. S. degree in chemistry. Write Box #104, Food Packer.

FOOD PACKER TELLS YOU HOW . . . 8½ x 11 soft cover volume containing the best articles from recent issues of FOOD PACKER. 75¢ per copy. Order from . . . FOOD PACKER, 139 N. Clark St., Chicago 2, Ill.

Canners Directory

1956

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Compiled by NATIONAL CANNERS ASSOCIATION from authoritative sources.

Gives location of firms, their plants, and products packed in each. Full commodity index. Membership in N.C.A. indicated.

Also lists members of the National Food Brokers and Canning Machinery and Supplies Associations.

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For Quick Results!
Why not try Food Packer's Classified Advertising Section?

What's New

(Continued from Page 32)

Fan Sprayer

Oakite Fan Sprayer, Model 561, is a unit designed and manufactured by Oakite Products, Incorporated, 144 Rector St., New York 6, to eliminate hand cleaning of storage tank interiors.

The fan sprayer consists of a horizontal pipe fitted with two rows of solid jet nozzles set close together and at increasing angles. A small hydraulic motor imparts an oscillating motion up to 110 deg., and the entire unit is mounted on small rubber wheels so it may easily be moved along the floor of the tank. The combined forward and oscillating movements make it possible for the sprays to hit directly a large part of the tank interior, while the remaining surfaces are cleaned by the flow-down of the cleaning solution and rinse water.

Additional information and operating instructions are available from the manufacturer.

Steel Container

A high-bake "Perma-Lined" steel shipping container especially suited for products requiring permanent lining protection from the metal used in producing the pail, is a new development of Continental Can Company, 100 E. 42nd St., New York 17.

An airless hot-spray method of enamel coating devised by Continental is said to give 100 per cent protective coverage with a uniform film thickness. It differs from conventional spray methods of enamel application in several respects. Basically, no compressed air is utilized for atomization of the enamel, as this airless atomization is made possible by hydraulic pressure in combination with heat. A thick film coating of greater uniformity is achieved by elimination of turbulence in the spray pattern.

Continental offers these containers in an open top lug cover style (sizes from 2 gallon through 12 gallon) and a closed head drum style in a 5 gallon size.

Kroger Preserves

(Continued from Page 31)

cooker, labeled and packed for shipment. This stage of processing, from holding vat through cooling, is done with the least possible loss of time to avoid loss of color and attendant flavor damage.

The results of the test batch are collected by a technician in the department. This set of data goes back to the laboratory for determination of necessary adjustments, if any, in the preliminary formula.

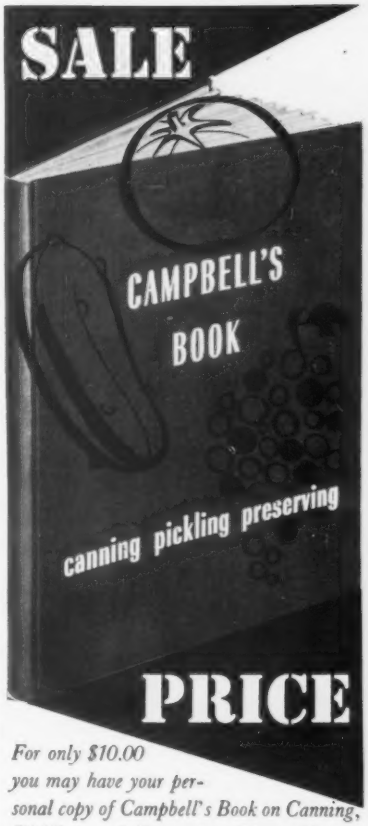
The same equipment can be adapted to the making of jellies. Most jelly producers use open kettles, first, because vacuum kettles require a tremendous cash investment, and secondly, because of the loss of flavor in a vacuum cooker, unless a carefully controlled procedure is followed.

Under this procedure, the juice is brought to the cooking floor in 5 gal. hermetically sealed cans or 3 gal. cans frozen. After the cans are opened the juice is strained through a fine meshed screen into large stainless steel tubs.

Half of the standard juice is placed in one preheat kettle and all the sugar for that particular batch is added, heated to 130° F. and put into solution by mechanical agitation. The other half of the juice is placed in the second preheat kettle and the buffer solution is added.

The juice sugar solution is drawn into the vacuum kettle and cooked to 85% soluble solids. When the 85% solids is reached, the second half of the juice reduces the solids to 68%. Immediately after the addition of the second half of the juice, the temperature is raised to 190° F. At this point the pectin and acid solutions are added and the temperature is further increased to 220° F. The batch is conveyed by air to the holding tank which supplies the filler and the product is filled at 190° or more. From this point to packing, relatively speaking, jelly requires far more control than preserves.

It is necessary to retain from 0 to 1 in. of vacuum out of the capper to avoid boiling action in the container which creates bubbles in the finished product. The cooling requires careful control also, to avoid the boiling action. Therefore, the cooling must be done in four steps of temperature reduction. This is accomplished by setting the controls on the cooler to 140° in the first section, the second section at 130°, the third section at 100° and the final section at 70°. After the product leaves the cooler it is labeled and packed in the same manner as preserves.



For only $10.00 you may have your personal copy of Campbell's Book on Canning, Pickling and Preserving. Have this one single complete source of processing know-how for your finger tip reference. No further computation needed! No other sources necessary.

Charts, tables and formulas are prepared to be taken directly into the quality control laboratory. Details are presented on the type of ingredients used, the quantity necessary for a given end volume and the necessary operations to make the combination of ingredients a high quality pack. This is the popular 1950 edition.

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Man-Of-The-Month

Dr. Roger H. Lueck

Vice President

American Can Company

Dr. Roger H. Lueck, vice president in charge of American Can Company's Research and Technical department, is recognized as one of this country's top research administrators. He gained this recognition by his role in developing better containers, by his vision in foreseeing the future needs of his company and the canning industries, and by his ability to translate those needs into production-line realities.

His interest in research started early, during his high school days in LaCrosse, Wis. His father, a physician, was at the time slightly disappointed when young Roger chose science over medicine.

He went on to Carroll College in Waukesha, Wis. where he received his B.S. degree in chemistry, starred on the track team and was a member of the debating team and dramatic group. After being graduated cum laude in 1919, he continued with graduate study in physical chemistry at the University of Wisconsin where he received his master of science degree in 1921.

He joined Canco in 1922 at the age of 26, as a research assistant and he soon was advanced to an administrative capacity.

First Can Enamel

During those early years at Maywood, Dr. Lueck was instrumental in developing the first revolutionary can enamel, called "C" enamel. This was designed to prevent sulphide discoloration of canned corn, but it has found many uses in billions of cans for foods other than corn that also release thio-derivatives when sterilized and stored.

He later established a laboratory in San Francisco and served as manager of Canco's Hawaiian Island operations. While in San Francisco, chemical specification for tin plate was developed, thus for the first time giving the industry control of the shelf life of its canned products.

When Dr. Lueck returned to Maywood in 1935 as manager of the Research department, the ensuing pre-war years were taken up with his directing such developments as the Blair Process, which gave canners of peas a product that retained its garden-fresh color and flavor; and the Tenderometer, an instrument used by canners to evaluate the quality of fresh peas delivered at the cannery.

It was also at this time that Dr. Lueck's interest in tin conservation began. It was a simple, almost hidden story, as those things usually are. For in those days tin conservation was almost unheard of. Researchers at the Maywood laboratory, however, were fascinated by the possibilities of electrolytic tin plate. Their work was encouraged by Dr. Lueck. At first the results showed nothing very promising: plain cans made from the new electrolytic plate in the as-plated finish had a very short shelf life. But to their surprise enameled cans made from the electrolytic plate had a practical degree of shelf longevity.

This information, tucked away in the files of the laboratory, became in 1942 the nucleus of the wartime tin conservation program. It was then that Dr. Lueck, who had been appointed chairman of the Can Manufacturers Institute Tin Conservation Committee, worked day and night with his committee to determine where the lightly coated electrolytic plate could replace the hot-dipped tin plate.

Tin Supply Cut

The urgency of the situation had been brought about by an order of the War Production Board cutting the tin supply in half and asking the can makers to fit a production formula to the curtailment. Such a drastic order threatened the very life of the industry.

Here Canco's pre-war research was put to work. The use of electrolytic plate, made possible by the many step-by-step Canco developments, was the saving factor. The industry still was able to produce enough cans to meet the heavy war-time demand with only about half of the amount of tin that was used previously.

For his work in this vital wartime project, Dr. Lueck was awarded an honorary degree of doctor of science from Carroll College.

Dr. Lueck was named to his present position as Canco's vice president in charge of research and development in 1954, after serving three years as general manager of the company's Research and Technical department.

In the wake of the tin conservation program has come Dr. Lueck's and Canco's research project seeking a "tinless tomorrow" and the complete elimination of this country's dependency on foreign tin supplies.

Dr. Lueck played a vital role in the development of aseptic canning of food wherein the product is pre-sterilized at high temperatures for short periods of time with practically no alteration of color or flavor, and then packed in pre-sterilized cans under aseptic conditions.

Dr. Lueck's associates will tell you not to be overawed by his many impressive accomplishments. Usually he has a twinkle in his eyes as he discusses problems with his associates.

He is very frank and forthright, but respected by everyone. He is hard to shake once he has made up his mind about something, but also is quick to recognize and admit an error.

He married the former Margaret M. McCaslin of Cleveland in 1924. They have two daughters – Peggy E. of San Francisco and Nancy J., who is married to Robert Dietrich of Chicago. The Dietrichs have two children.

Also a Golfer

Residing in Bronxville, N. Y., Dr. Lueck relaxes from his arduous research activities by playing golf (low 90's "sometimes"), fishing and hunting. He also does a bit of curling at the Ardsley (N. Y.) Curling Club.

He is the author of many scientific papers relating to various problems of the canning industry. Among these are papers on the kinetics of chemical reaction, corrosion of tinplate, canning technology and frothy fermentation of saccharine foods.

He is a member of the American Chemical Society, the Institute of Food Technologists, the Institute of Chemists, the New York Association of Research Directors, the Industrial Research Institute and the American Association for the Advancement of Science. He recently was elected to the board of directors of the Industrial Research Institute.

Ball Brothers' *Personalized* Counsel

can help you influence this decision!

The successful glass container *stops traffic* in the store . . . *speeds traffic* on the production line. Design is the secret!

Imaginative design can create glass containers that help you get a bigger share of the market. When teamed with years of glass packaging experience, sound design can cut container costs, solve filling problems and make labeling easier!

Ball Brothers' *personalized* Design Counsel can create for you the better looking, better performing glass containers that mean more sales and faster production.

Your Ball representative can call on our staff of industrial designers, engineers and technicians to aid you on other packaging problems: materials handling, processing, shipping cartons. These Ball specialists will provide sound, practical recommendations that are tailor-made for your operations.

For more information about glass containers, metal closures and "PACKAGING-PLUS" services, write Ball Brothers Company—Muncie, Indiana; Okmulgee, Oklahoma; or El Monte, California.

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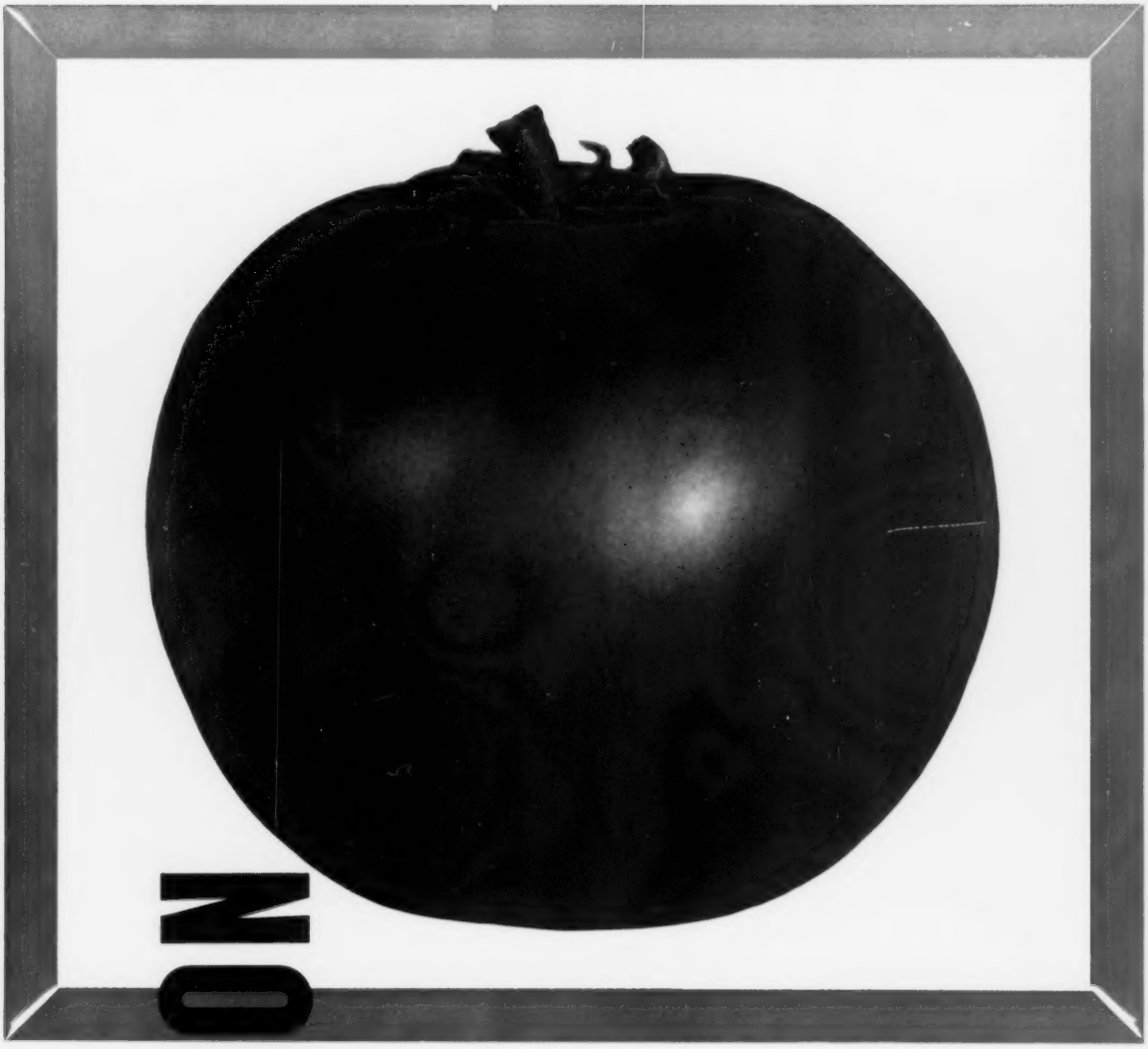

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